DYNAMICS OF ONLINE GAME INDUSTRY IN CHINA

-- AN APPLICATION OF PORTER'S MODEL

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ABSTRACT

The Chinese online game industry is one of the fastest growing and dynamic interactive entertainment industries around the world. After 2006, the industry launched more than 200 game titles to the market annually (IDC, 2007). Some popular game characters have become cultural icons. The market landscape is expanding as the industry allows new ventures. The number of Chinese gamers is increasing rapidly. The Chinese online game industry as a follower of South Korean and US game industries is gaining competitive ability to compete with leading game giants in the world marketplace.

Understanding the dynamics of this new media industry is important to policy makers, academics and entrepreneurs as they need to understand the increasingly significant contribution of online game industry to the economic and social development of China. This thesis attempts to apply Porter's (1990) competitive advantage model to study the case of online game industry in China. The purpose is to show how an industry in a developing country can create competitive advantage. Finding that Porter's theory has yet to be comprehensively and critically applied to study the ICTs for development, or ICT4D, this thesis identifies several macro variables associated with the transitioning society to understand the application of the model to study the industry competitiveness in the context of new media sector in China.

This thesis is based upon a fieldwork that I conducted from November 24th to December 24th, 2007. The fieldwork findings not only show that there is a competitive advantage based upon variables such as market size and growth, sophistication of domestic demand, building up of advanced labor skills, aggressive participation of capital, increase in domestic rivalry, agglomeration of supporting industries, as well as adaptability of firm strategy and ownership structure to the national environment, but

also suggest that macro-variables associated with Chinese transitional society lead to diversified industry supply, internationalized corporate management, emergence and growth of supporting industries and enhanced sophistication of consumer demand, creating additional sources of competitive advantage for the entire industry.

CHAPTER 1 INTRODUCTION

1.1 Statement of research problem

The Chinese online game industry is one of the most profitable and dynamic new media industries around the world. The role of this new media industry is significant to both social and economic development. It is an emerging industry with seven years of substantial growth of more than 60% annually (iResearch, 2007). The industry generated a total market revenue of US$815 million in 2006 and is expected to reach the market revenue of US$3.05 billion by 2011 (IDC, 2006). Though it emerged as a distributor of foreign games, the industry has also launched home grown game titles for both local and foreign markets. The online game titles were consumed by 32.6 million Chinese gamers by the end of 2006 and 69 million by 2011. The rapid diffusion of Internet broadband service and computer facilities have created opportunities for some Chinese game titles to become bestselling games in South East Asia (IDC, 2006). Some companies are now leveraging sources in both the domestic and overseas markets in order to compete with world leading game giants in the world's marketplace.

Despite its growth, the Chinese online game industry is rarely studied by academics. Though an important agent in the new media development in China, the main discourse of game studies focus either on gamer studies or on media governance and censorship studies. The role of the media industry/companies remains understudied (Damm, 2007). This thesis asks: What are the driving forces behind the abrupt emergence of this industry in recent years? Answering the question requires a comprehensive theoretical framework that analyzes both the macro and micro factors that shape this emerging and fast growing industry.

1.2 Research model, method and limitations

This thesis studies how an industry follower, like the Chinese online game industry, gains competitive advantage in the global online game business. The thesis utilizes the classical industry competitiveness model commonly known as the Diamond model (Porter, 1990) as its core theoretical framework. The model is a useful tool for ICT4D, or ICT for development, research because it covers the key determinants or variables in the process of gaining competitiveness. However, online gamers are more active than consumers of traditional media, who are assumed to be passive. In addition, China's transitional social context tends to stimulate or weaken consumer demand, which is the key driver behind the formation of an industry. Consequently, social and cultural elements must be included to study dynamics of this interactive new media. Since the Diamond model is an economic model that fails to include social variables associated with Chinese transitional society, this thesis amends the Diamond model to include macro variables associated with Chinese social context. These variables are particularly vital in explaining the development of the online game industry in China from a variety of perspectives that take into account the massive socio-economic transformation that has been occurring in China in recent decades.

To answer the research questions, the thesis is divided into four sections. In the first section, there is a literature review to identify research gaps before Porter's Diamond is analyzed along with studies on Chinese social context. The review of previous works is to try to map out a comprehensive theoretical framework that can encompass aspects of the online game industry. The second section presents the findings of a one-month fieldwork study in China in which decision-makers of corporate strategy of online game companies in China were interviewed. Whereas previous researchers tended to use secondary data such as research reports from the government, commercial sources, or media reports (Di, 1992; Ren & Yang, 2005), the interviews

with company senior managers in this study allow for a more nuanced and thorough understanding of the considerations before strategic decision making at corporate level. Reasons for this research method and recruitment of interviewees are elaborated in Chapter 5. After utilizing Porter's Diamond model to measure the competitiveness of the Chinese online game industry, the data gained during direct engagement with industry players is then used to argue that Porter's model needs to be changed or supplemented to take into account the special path of the industry's evolution, the important role of the entrepreneurs and the high media concentration within the Chinese online game industry. Having identified the theoretical framework and gathered primary research data accordingly, the research findings are then summarized and categorized to fit into the theoretical framework. The four determinants that constitute the competitive advantage are discussed, their interrelationships are analyzed and new variables that Porter's model does not include are introduced and analyzed subsequently.

1.3 Thesis organization outline

This thesis attempts to provide an explanation of social and economic dynamics for the development of online game industry in China. The research involves seasoned managers in individual companies as well as a changing consumer demand in the transitional society. This involves a review of prior research on online game/new media, industry development and Chinese transitional society and changing culture, a historical overview of the macro environment, industry, the gamer group, a fieldwork study to interview senior industry managers and an analysis of the fieldwork findings.

This thesis is categorized into eight chapters: introduction, evaluation of prior literatures and identification of thesis framework, historical overview, methodology, data analysis and conclusion.

Chapter 1: Introduction

This chapter is an introduction to the topic in general terms. It proposes key research direction and tells readers what this study is to address and the implications or significance of the study to existing theory and practice. Once the research question is set, this thesis takes a macro view to identify the problem and evaluate its appropriateness into the broader world of new media studies.

Chapter 2: Learning from prior research

This chapter will summarize and evaluate in detail the prior literature regarding game, industry growth and Chinese transitional society and culture. The literature review sets up stage for a detailed review and evaluation of the key theoretical framework in Chapter 3.

Chapter 3: Theoretical framework

Industry growth theory and research on Chinese culture and transitional society are reviewed in order to try to sort out contributing factors that shape industry dynamics. Reasons for the formation of the theoretical framework are presented. Classical industry growth theory, Michael Porter's Diamond model, is systematically summarized before being employed as primary outline of the subsequent fieldwork interview and analysis.

Chapter 4: Historical overview: Online gaming in China (2000 – 2007)

This chapter covers the history of development by outlining the stages of the online game industry. The basic chronology is an important backdrop to show the unique path of evolvement for this industry. It also explains how the Chinese transitional society drives the industry. This chapter lays a foundation for the analysis chapter.

Chapter 5: Methodology: Interviewing senior corporate managers

Chapter 5, 6 and 7 are the core research that shows the contribution of this study to the academics. Chapter 5 elaborates the objective, methodology and practice of the data gathering. The fieldwork of interviewing 18 senior managers from 15 Chinese

online game companies in Beijing and Shanghai is presented and evaluated. The fieldwork is conducted from November 24th to December 24th, 2007. Details of recruitment of interviewees and reasons why this research method is appropriate for the study are provided. The fieldwork results are summarized and evaluated.

Chapter 6: Studying dynamics: Basic application of the Diamond

Chapter 6 is to fit the research findings into Porter's model, which is defined as basic application of the model in this thesis. Having identified competitive advantage as an important analytical tool for the study and having gathered primary research data, I then move on to apply the model to the national case: China. Specifically, I address the issue of whether and how China's online game industry exhibits a competitive advantage. The fieldwork findings are fit into the theoretical framework. This is a basic application of the Diamond to study the four determinant variables that constitute the competitive advantage of this industry.

Chapter 7: Beyond the Diamond

This Chapter highlights variables not covered by the Diamond. The Porter's Diamond does not clearly categorize external influencing factors associated with a developing economy. As in the age of globalization, China's transition to a decentralized market economy needs to include the change of the social structure from closed economy to open economy. The thesis modifies Porter's original ideas by incorporating variables associated with the Chinese transitional society and culture. I argue that the competitiveness and dynamics of the Chinese online game industry are substantially enhanced by these external factors.

Chapter 8: Conclusion and implication

In this chapter, key research conclusion and limitations are presented with suggestions for future research.

CHAPTER 2 LEARNING FROM PRIOR RESEARCH

The process for me to raise and address the research question can be summarized into five steps:

- Statement of the Problem: what is the dynamics of the Chinese online game industry and why.
- Background information: Research articles and official statistics show that the Chinese online game industry is one of the most dynamic entertainment industries around the world and is becoming a major force in the world game market.
- Rationale: Porter's model to study competitive advantages that underlines the study is presented. The research gap in the knowledge of this industry is defined. The research question is redefined and specified to examine the four determinants that constitute the competitive advantage of the Chinese online game industry. Efforts to fulfill the gap in the application of the model are summarized.
- Research method: The research method to be used in this study is briefly described. The reasons why I choose this research method are presented. Research variables and participants are identified. The data analysis method is also summarized

During the course of my research aimed at identifying the competitive advantages in the online gaming industry and determining the reasons for these advantages, I searched a broad range of literature related to the dynamics of China's online game industry. These included studies on the development of games and new media, industry growth, and the influence of socio-cultural factors on the development of the industry within China. Although some of the existing literature on new media provided useful information for my project, there were obvious gaps.

In this chapter, I attempt to identify some of the major gaps and analyze possible reasons for these gaps. I then argue that Porter's model for examining competitive advantages within industries is a useful theoretical framework for analyzing the online game industry.

2.1 Research trends on game

2.1.1 Lack of study on online game

A broad review of recent studies of online game and new media reveals two clear gaps in existing research. The first gap is the result of a lack of research on online games. "There is little research on even the most basic aspects of online game" (Griffiths, Davies & Chappell, 2004, p.90). Instead, most of the existing studies were on video games to analyze either the gamers or the media regulation (Chan 1994; Damm 2007). The research on gamers tends to focus on demographics of gamers and the ways in which the media affects gamers (Drotner, 1992; Funk & Buchman, 1996; Callon, 1999), how gamers play and use different games (Griffiths, Davies & Chappel, 2004; Choi & Kim, 2004), and demographics of the gaming population (Griffiths, Davies & Chappel, 2004). Demographic research on the classification of gamers in terms of age, gender and socioeconomic status shows that young males with relatively lower socioeconomic status tend to dominate the game world. Drotner (1992) concluded that youngsters are trend setters and fashion pioneers. They are the largest proportion of the population to use new media products. Funk and Buchman (1996) agreed as he found that gamers are younger than TV viewers. Griffiths, Davies and Chappel (2004) gathered demographics of a single game and found that most youngsters engaged in the game are male. He argues that the younger the gamers are, the longer the hours they spend on the game. The research on the regulation and governance of games focused on topics such as regulations in the virtual world (Lewis &

Miller, 2003), media censorship, and other forms of governance (Fong, 2007; Dickie, 2005). With the advent and rapid diffusion of online games in East Asian countries such as Korea, Japan and China, scholars started to look at the online gamers and their motivations to play online games. In these studies, the role of gamers for the development of online games was highlighted. Callon (1999) found that for Massively Multi-player Online Role-Playing Game, or MMORPG, consumers are different from those for other products or services. They are far more actively engaged than consumers of traditional media. Dmitri (2004) concluded that while most of studies of new technology ask what the technology has to do with the society, the history of game started by acknowledging the important role of gamers. Ruth (1999) in the study of consumption for new technology assumed that consumers are active and intelligent enough when choosing to consume new media. Based on this assumption, she suggested that social history of a new technology should focus on consumers because consumers decide whether to adopt the technology or not. She argued that the choices the consumers make are guided by social forces and by the various social roles they play in the real life. Consequently, demand for online game, or motivation to play online game, is more closely linked to social and cultural context just because online gamers are more engaged participants than recipients for any other products for traditional media. In this place, consumers decide whether to adopt the technology. They also decide what form of technology they want to adopt (Cowan, 1999). There are other studies focusing specifically on the motivations behind game playing. These studies find that challenge, control, entertainment, ego identity building, sociability and high social reputation enjoyed by the expert gamers are the main reasons behind game play (Sherry, 2003; Choi & Kim, 2004; Dal & Florence, 2008). Choi and Kim think that an attempt to realize ego identity was the motivation for teenagers to play games since they can act as a desirable character in the game. While Dal and Florence

(2008) found that expert online game players are "highly regarded" and "celebrities supported by major corporate sponsorship and enthusiastic loyal fans" (p.50). Flow theory proposed by Csikszentmihalyi (1975) seemed to take a neutral stand as it suggests that challenge and skill are two vital factors to influence the flow and the state of flow depends on the balance of the two factors. Simply put, players feel frustrated if the challenge is too high or lose interest if the challenge is too low. Taylor (2006) in his book, *Play Between Worlds: Exploring Online Game Culture*, suggested a sociality function of online games as he relates the online and offline world. He believed that offline social forces, such as dominant ideologies concerning gender, race and class, are reproduced online and online elements such as relationships among players and styles of play influence players' interactions offline. Choi and Kim (2004) suggested that positive personal experience of happiness in online game is constructive in e-loyalty building and hence, encourage participation in the game play.

These studies on gamers and regulation highlight the importance of social and cultural forces behind game playing and game industry development. However, the subjects in these studies can be placed within two categories—the gamer and the government, but the industry is generally ignored (Damm, 2007).

2.1.2 Lack of study on online game as an industry

In addition to the lack of studies on online games, there is also scant research on these games as part of a new media industry. This lack of attention to online game as an industry is the second major gap in research I encountered during the course of my research. Dal and Florence (2008) thought the lack of study is due to the difficulty of "finding appropriate theories and methodologies" (p.40) for an emerging industry. The main academic work dealing with the game industry was done by Dmitri (2004), Strom and Ernkvist (2006), Chung (2008), Dal and Florence (2008). Dmitri explored the development of the video game industry in the United States and the media effects

of video game on its users. Although he believed that the emergence of online gaming networks is a major trend in the development of the game industry (Dimitri, 2004), he did not study them in depth. In his article S*tructure and competition in the US home video game industry* published in 2004, he pointed out that there are fewer studies on online games than there are on video games. In recent years, with the emergence and rapid growth of online game industry in East Asia, Strom and Ernkvist (2006), Chung (2008), Dal and Florence (2008) started to look at the online game industry in the region. Strom and Ernkvist (2006) compared the online and video game industry in Korea, Japan and China to explain the competition landscape among the three countries, while Chung (2008) compared the effectiveness of policy to cultivate the game industry in Korea and Singapore. Dal and Florence focused on the case of Korea and identified several key socio-cultural and economic forces driving the development of online game industry in Korea.

When specifically focusing on Chinese new media studies, I notice a discrepancy between the discourses used among Western scholars and their Chinese counterparts. Whereas Western scholars tend to study the way in which new media potentially liberates its users and media from government censorship (Latham, 2007), Chinese scholars focus more on the economic contributions of this emerging industry (Damm, 2007). The new media industry is still considered to be a tool in the government's control, and there is a lack of studies that examine its profit-driven aspects (Latham, 2007). Studies on media governance seem to vary according to the different political systems in the countries whose media is being analyzed. Works by Western scholars on media governance and regulations in China have tended to focus on media censorship. The emergence and diffusion of ICTs led scholars to focus on the liberating effect ICTs have by enabling information to flow without censorship. Thus, the dis-

course of control and censorship has remained in place despite the shifts that have occurred within the industry.

The lack of studies on media censorship by Chinese scholars, most of whom reside in China, may be due to the lack of funding for such projects. It might also be due to their personal experience of living in a society undergoing rapid socio-economic transformation and development. Their personal experiences and witness might be reason for the economic focus among Chinese scholars, whereas the lack of attention to economic aspects of the Chinese new media industry by Western scholars might be due largely to language barriers. Current surveys and statistics reports on the Chinese new media industry are mostly in Chinese, and the English versions of these reports are greatly condensed and simplified. This makes it difficult for Western scholars to carry out in-depth economic analyses of the industry.

In contrast to the focus on control and liberalization of this industry among Western scholars of Chinese new media studies, the focus among Chinese scholars has primarily been on the role of new media in modernization and economic development (Jin 1997; Ren & Yang 2005). In these studies, Porter's model was applied to examine competitive advantage of an industry. Jin (1997) applied Porter's competitive advantage model (1991) to study various industries and found competitive advantages in market size, growth and lower labor cost, he also concluded that international business practice encouraged import of advanced technologies and capital, accelerating the process of industrial modernization. Ren & Yang applied Porter's model to explain the rapid development of Chinese online game industry. Most of these studies are exploratory and based on Chinese language surveys and statistics reports, none of them have attempted to approach industry practitioners.

This paucity of thorough research on the Chinese online game industry, along with the rapid growth of the new media economy, led me to turn to the industry

growth theory in my own analysis. My use of this theory is an attempt to find an effective theoretical framework in which to systematically analyze the growth of this industry within China. I will elaborate and evaluate the theory in the following chapter.

CHAPTER 3 THEORETICAL FRAMEWORK: PORTER'S DIAMOND

3.1 Introduction of the Diamond:

Analyses of industrial growth are commonly based on existing theories of competitiveness and competitive advantage. Theories of industrial growth originated in and were developed by Western scholars during the past four centuries. These include classical theories of industrial competitiveness such as the Absolute Advantage Theory proposed by the Scottish economist Adam Smith in 1776, the Comparative Advantage Approach developed by David Ricardo in the early 19th century, and competitive advantage model by Michael Porter from the 1990s. Smith's Absolute Advantage Theory holds that a nation benefits from manufacturing more output than others in a certain industry, since it inherits or is endowed with one particular resource. Ricardo's Comparative Advantage Approach (Chang, 2002), which is commonly known as a key drive for international trade, challenges the absolute advantage theory in the formation of an industry for a country. It argues that the absolute advantage for a nation rarely occurs, and that if a nation lacks an absolute advantage in all industries of its economy, it should produce and export goods for which it possesses a comparative advantage. It should import goods for which other nations possess a comparative advantage. For the absolute advantage and the comparative advantage theories, industry advantage can be gained from lower cost of production with a number of assumptions, e.g. there are only two industries producing two goods in two equal size economies, and there is perfect mobility of factors of production within the countries.

In contrast to these traditional theories of absolute and comparative advantage that focus on the comparison of production cost, Porter's theory is more comprehensive and systematic. It is commonly referred to as The Diamond because it is comprised of

four inter-related elements that form a diamond shape. Additionally, both the absolute and comparative advantage theories contain the belief that inheritance of one particular resource is a factor of competitive advantage, Porter states that competitiveness and wealth are created rather than inherited (1990). This statement highlights aspects of the cultural industry that focuses on creativity.

Porter's model is a widely recognized systematic and qualitative model for examining determinants behind the competitive advantage of an industry. There are a number of reasons I decided to utilize Porter's theory when gathering data and performing analyses in the course of my research. First, it is a well established theory that has been used to study the competitiveness of various industries around the world. Second, it argues that wealth is created rather than inherited. This model reflects a unique feature of cultural and media industries, which value innovation and the creativity of human resources. Porter's model was developed to make "improvement and innovation in methods and technology a central element" (1990, p.20). It is an accessible theory because it focuses on four determinants of firms within a specific industry and the four determinants form the core of the theory. This allows the process of data gathering to be focused and clear-cut on companies. Finally, Porter's theory is a mature and stable theory with a key original framework that has remained unchanged since its inception.

Porter does not provide a clear conceptualization of "competitive advantage;" instead, he divides the concept of "competitive advantage" into two parts: a dependent variable that measures the outcome of competitive advantage, and a set of independent variables that are the source of competitive advantage (Heeks, 2007). In Porter's model, four key dynamics of a nation comprise the "diamond" of competitive advantage: factor conditions, demand conditions, related and supporting industries, and firm

strategy, structure, and rivalry. These four elements interrelate and reinforce one another to form a diamond structure. In my thesis, Porter's diamond forms the basis for the way in which competitive advantage is defined as a series of synergies created through self-reinforcing effects among the four dynamics Porter maps out, and their relationship with external influencing factors. Sustainability of the core dynamics drives an industry from a stagnated stage into a growing one. In applying his theory to specific countries, Porter argues that it is not nations that compete, but rather specific industries and industrial segments that compete. This model enables researchers to examine the four interdependent determinants of the national competitive advantage at the industry and corporate level.

The following section of this chapter provides an analysis and summary of Porter's Diamond system. Related research is added into the model and the application of the model is evaluated.

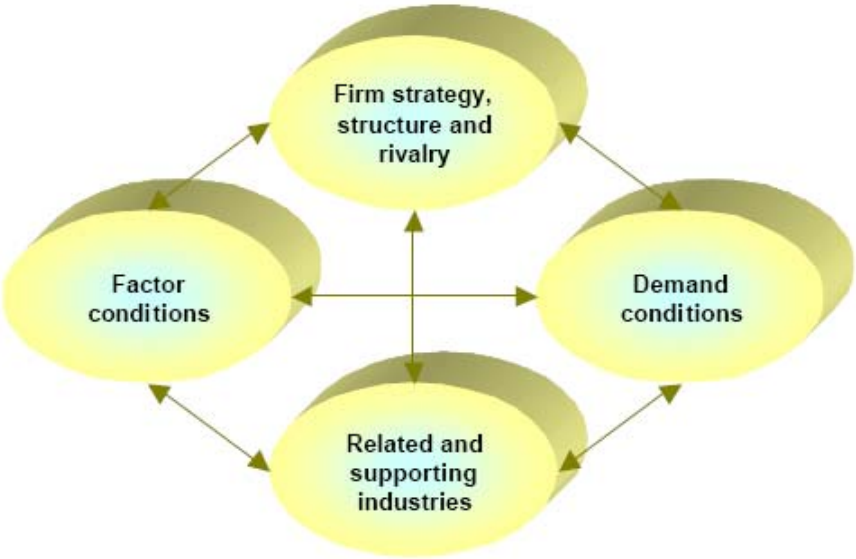
However, online game industry is a culture industry, it is not driven by economic forces alone. In the final section of this chapter, I review and critique existing literature on Chinese social context and its relation to the game industry. Gamers within large networks are active participants in the industry, therefore, I conclude the chapter by mapping out the social and cultural contexts in which both the industry and the gamers are situated.

3.1.1 Four determinants of national competitive advantage

As shown on Figure 1, in Porter's model, industry competitive advantage is determined by four attributes, they are factors of production and distribution, conditions of demand, firm strategy, structure and rivalry, as well as development of related and supporting industries. I will discuss each of the above four determinants one by one. Then I will move on to analyze the Diamond as a system from three perspectives, the

interrelationships of these determinants, industry clustering and stage of ongoing industry development.

Figure 1: Porter's Diamond: Four determinants of national competitive advantage



Source: Adapted from Competitive Advantage of Nations (Porter, 1990)

a Factor conditions

Factors of production refer to "inputs necessary to compete in an industry" (Porter 1990, P76). In this categorization, Porter identifies "key" factors and "non-key" factors. He thinks that the "key" factors, or specialized factors that include skilled labor, capital and infrastructure, of production are created, not inherited (Porter 1990, p.78), while "non-key" factors, or generalized factors that include unskilled labor and raw material, can be obtained by any company.

Table 1: Factor conditions of the Diamond

Factor Conditions	Key Factors (specialized)	Skilled labor, capital and infrastructure	More valuable and significant to competitive advantage as they are the hardest to imitate
	Non-Key Factors (generalized)	Unskilled labor, Raw material	Can be obtained easily and do not generate sustained competitive advantage

Source: Adapted from Competitive Advantage of Nations (Porter, 1990)

The categorization highlights the importance of "specialized" or key "factors" that include:

- Skilled labor,
- Capital, and
- Infrastructure

Porter believes that "key" factors are more valuable and significant to competitive advantage because they are the hardest to imitate. "Non-key" factors can be obtained easily and, hence, do not generate sustained competitive advantage.

Among the "key" factors, he stresses that a nation's stock of specialized, skilled professional and technical personnel is vital. In his explanation on why there are cases of industry success in countries with weak factor conditions, Porter thinks that it is the contribution from specialized and skillful professional and technical personnel. Skilled labor for IT service industry can be categorized into core operation skills, marketing and client service skills, as well as administrative skills (Heeks, 2007). Core operational skills include both downstream skills, which are required for production and maintenance work, and upstream skills for analysis and design. Marketing and client service skills are closely associated with project management skills for the account building and management with clients, corporate internal management and R&D. Administrative skills refer to administration, human resources and technology management skills within the company. Online game technology is another important indicator in IT service industry as it determines the quality of products and services to consumer.

In Porter's model, capital flow or liquidity of stock market is important in the corporate financing, while infrastructure of the industry is a guarantor for product delivery from producer to consumer.

b Demand conditions

Among the four determinants, domestic demand is considered as the single most powerful determinant of competitiveness in service industries. Porter believes that a sophisticated domestic demand is an important determinant for competitive advantage. Firms that are facing a sophisticated domestic market are more likely to sell superior products because the market demands high quality and, hence expects more innovation from firms.

Porter describes the following three attributes of domestic demand:

- Market size and growth,
- Sophistication of local buyers, and
- Linkage of local buyer to global fashion

According to Porter, the market size and growth potential encourage expansion of firms and economies of scale. As sophistication and demand of local buyers push the firms to provide better products or services, the higher capacity the discriminating values of local consumers spread to other countries, the more competitive advantage the local industry has in its expansion into the global marketplace.

c Related and supporting industries

Porter thinks that a set of strong related and supporting industries is important to the competitiveness of firms. This includes both upstream and downstream industries. For the online game industry, the supporting and related industries include both downstream distribution and operation of game titles, the infrastructure service, such as broadband services and upstream animation and movie industry.

The phenomenon of competitors and upstream and/or downstream industries with major establishments located in the same area is known as industry clustering or agglomeration. An obvious advantage of industry clustering may be potential technology spillovers among competitors. But disadvantages could be the potential job hopping of employees among peer companies.

Porter thinks that international demand for product or service that the supporting and related industries provide could spread to the focal industry. Suppliers to the industry are important as they can supply high quality and low cost inputs, stimulate new ideas and synergy among the industry cluster that usually occurs at a regional level. Related industries could also help if they are competitive on the global market place.

d Firm strategy, structure and rivalry

(a) Firm strategy, structure and suitability to national environment

Porter's ideas on firm strategy, structure and their suitability to national environment focus on three main aspects, adaptability of corporate management to national environment, corporate incentive schemes to encourage innovation and national attitude toward career choice.

First of all, Porter argues that nations will tend to be more competitive in industries for which that a specific style of management is well suited to national environment. He states that "management practices and mode of organization favored by the national environment are well suited to the industries "sources of competitive advantage" (1990, p.108), though the best management style vary among industries and new industries may be oriented to a certain style of management. According to Porter, the national environment includes attitudes towards authority or management and vice versa, norms of interpersonal interaction, as well as social norms of individualistic or group behavior, and professional standards.

Secondly, on firm organizational structure, Porter focuses on corporate motivation and incentive schemes. He believes that nations will succeed in industries where "goals and motivations are aligned with the sources of competitive advantage" (1990, p.110). This alignment can be determined by ownership structure of shareholding that

shape the “motivations of owners” and the incentive schemes that shape the “motivation of senior managers” (1990, p.110).

Thirdly, national attitude toward things like money, success and risk will similarly influence alignment of individual career choice, which is also important for industry competitiveness. Individuals base their career decisions on personal aspirations, promising career path and prestige. A country will be competitive in an industry whose key personnel hold positions that are considered prestigious.

(b) Rivalry

From his country-specific empirical studies, Porter finds a causal relationship between intensive domestic competition among rivals and the creation and persistence of competitive advantage (1990, p.117). He believes that intense competition from vigorous domestic rivalry encourages innovation in product development and marketing, cost efficiency, quality improvement, as well as efforts to explore new markets domestically and internationally. However, international competition is not as motivating as there are enough differences among companies in their home country.

3.1.2 Two external influencing factors

As shown on Figure 2, the complete system of Porter’s competitive advantage includes two other elements that are outside the Diamond structure: chance and government. They are considered as the two important influencing factors that could either benefit or harm the four determinants of the competitive advantage.

(a) Chance includes elements beyond the control of firms or industries. It usually refers to major changes in macro environment, such as war, substantial change in demand, drastic shift in exchange rate, or major technological breakthroughs or inventions, etc.

(b) Government policy is considered as another important element that could influence the four determinants. It is outside the Diamond because Porter believes

that government itself could not create competitive advantage, but can place positive or negative influence on the four determinants via its policies .

3.1.3 The Diamond as a System

Porter sees the Diamond as a system because the four determinants are not independent or separated from each other. Figure 2 shows that the four factors on the Diamond are self-reinforcing. This holistic view of the Diamond adds more depth to the model.

- **The interrelationship of determinants**

Each one of the four determinants is affected by all the other three determinants. Porter systematically analyzed the twelve inter-relationships among the four determinants (1990, p.132-145). For example, he argues that domestic rivalry for final goods facilitates the emergence of an industry that provides specialized intermediate goods; intensive domestic competition leads to sophisticated consumers who expect upgrading and innovation of products and services.

- **Industry clustering**

The self-reinforcing effect of the Diamond supports the idea that competitive advantage is supported by clustering of both local related/supporting industries and rivalries. Porter thinks that geographical concentration of industry suppliers, buyers, competitors and collaborators could stimulate each other through rivalry exchange of information and labor, as well as building a reputation among investors, government and customers.

- **Three-stage of industry development**

Porter's Diamond model also takes a developmental perspective. Porter argues that the Diamond is constantly in motion as the industry continuously evolves. He categorizes the industry evolvement into three main stages: factor-driven, investment-driven and innovation-driven.

In the factor-driven period, Porter believes that the initial stage of competitiveness of an industry is almost solely from the factor of production, such as skilled labor, sound infrastructure and inheritance of natural resources. However, for industries in developing countries, though Porter saw “unusually heavy local demand” (1990, p.160) could lead to the formation of an industry, but it is relatively unimportant to create competitive advantage in this stage . In the investment-driven period, the competitive advantage of a nation is driven by willingness and capacity for the nation and its firms to make aggressive investment. The investment is made to obtain new technology, to train skilled labor, and to upgrade the infrastructure. In the innovation-driven stage, when the advanced factors of production are created, there are fierce competition in the industry, sophisticated and internationalized consumer demand and strong supporting industries, firms start to compete in the production of innovative new products and services. Porter sees less government intervention in the development of the stage. But his conclusion that the innovation stage is exclusive to developed countries.

Industry growth depends on elements such as factor creation mechanism, such as , the stimulation mechanism, such as the stock option plan, for managers to make money, high domestic competition, and increasing sophistication of domestic consumption, while a few disadvantageous factors may enhance innovation pressure and new business formation.

3.1.4 Application and evaluation of the Diamond

Porter’s model is a comprehensive, systematic and qualitative framework used to analyze the competitive advantage of an industry at the national level. The model is considered to be a classical theory that is widely studied around the world. In the application of the theory, most studies tend to use it as a sufficiently valid measurement tool or generally accepted truth to describe and analyze a specific industry. Porter

himself uses the model to examine competitive advantage in various industries of economically developed countries, including UK, US, Germany and Japan and the implications competitive advantage has for policy making and corporate strategy considerations (1990). World Economic Forum (WEF, 2005) utilized it as a base framework to compare the competitive advantage of a certain industry among different countries. British Department of Trade and Industry (DTI, 2004) used the Diamond to measure the competitiveness of the country's online game and computer services industry. Further more, most of these applications tend to look at one of the world leading industries in a developed economy, including TV program supplier in US (Hoskins, 1991) and watch maker in Swiss (Porter, 1990). But, overall, the application of the Diamond to study developing countries is limited, except for some studies by Asian scholars. Ren & Yang (2006) utilized the model to study Chinese online game industry But, overall, the application of the Diamond in developing countries is limited. While Di (1992) attempted to apply the model to a government sponsored project to evaluate the competitiveness of the Chinese industries on a global marketplace and identify advantages such as labor and raw material cost in manufacturing industries.

There are modifications and critiques to certain aspects of the Diamond. In recent years, the new media industry in less developed economies, particularly in Asian countries like India, Korea and China, are claiming an amazingly growing share on the international markets and becoming a visible force in the virtual economy. As a result, academics are starting to employ the Diamond to examine the new media industry in these countries and analyze a number of ICT4D issues. Heeks (2007) extended the theory to the case of the IT sector in India. He studied the Indian software industry and identified a number of critiques that require some amendments to the theory in its application to the analysis of IT sectors in developing countries, for example, as Heeks noted, the negligence of the effect of international talent transfer for

developing countries. International talent transfer helps speed up technology upgrading and management efficiency of the industries in developing countries. Kim, Dae-il and Stimpert (2004), on the other hand, examined competitiveness in Korean Internet companies and found that competitive advantage could be gained from close integration of online and off-line operations. Porter's conclusion that the innovation stage is exclusive to developed countries is also challenged with the rising of world competitive industry in less developed countries such as South Korea and China (Strom & Ernkvist, 2006), while Chung (2008) suggested theories of globalization to explain the dynamics of online game industry development in Korea and Singapore.

In the examination of industry competitive advantage at national level, though recent development in new media industry of less-developed countries proves the inadequacy of the Diamond model, none of the arguments so far leads to an alternative and systematic replacement for it. In fact, most of these studies employing Porter's model as an analysis outline unavoidably fall into the category of basic application of the Porter's model. These studies go through the four determinants and achieve a descriptive conclusion on the state of the industry. While the variables associated with continuous and substantial changes in developing economies and societies are generally ignored.

In Porter's model, emerging external influencing factors such as world economic integration and changing local cultural context of an industry are not included. As ICTs reinforce the globalization of world economy, industry evolvement needs to be evaluated in a global context (Chung, 2008). Management has to look at an international business environment and cultural context of the local market, in which actions of competitors, suppliers, consumers, as well as new entrants and providers for substitutes may influence the competitiveness of an industry.

The online game industry as a culture industry is not driven by economic forces alone; there will be blind spots in explaining the culture industry based purely on economic theory (Wang, Goonasekera & Servaes, 2000). Since large networks of gamers are more engaged than consumers of other media products, the social and cultural context that both the industry and the gamers are situated in must be studied. According to Cowan (1999), the first process is to evaluate how "social forces" influence the consumption choice. Dynamics of a culture industry is more closely linked to real-world context and culture. The literatures and background information associated with the Chinese society and Chinese culture must be reviewed and analyzed.

3.2 Beyond Porter's model: Chinese social context

3.2.1 Collectivistic value

Many scholars tend to study the Chinese culture by comparing it with the West. Chinese culture is often characterized as collectivistic, while Western culture is often characterized as individualistic (Triandis, 1995). People with collectivistic values tend to be interdependent and to have self-concepts defined in terms of relationships and social obligations (or "Guanxi" in Chinese). In contrast, people with individualistic values tend to strive for independence and to have self-concepts that are defined in terms of their own aspirations and achievements (Shweder & Boume, 1984).

Furthermore, some academics suggest that for Westerners the representation of self is more important than the representation of others, while for the Chinese, the representation of others is more important than the representation of self (Markus & Kitayama, 1991) . A study consistent with this idea showed that Americans evaluate the similarity of others to themselves as higher than the similarity of themselves to others (Holyoak & Gordon, 1983; Cohen & Gunz, 2002). Scholars agree that different cultural backgrounds lead to different formation of perspectives. Wu and Keysar (2007) found cultural differences between Chinese and American, such as the Chinese

collectivistic preference affords the Chinese a better ability to interpret other people's actions, which can be an explanation of the popularity of combating games that highlight collaborated team work to combat with other teams. Dal and Florence (2008) compared cultures of Korean to the Westerners in their study of the cultural implication to the development of Korean online game industry and found similar features in the culture of Korea and China.

3.2.2 Decentralized economy

Since late 1970s, China has been undergoing a massive shift from a centrally planned economy, society and culture to the age of decentralized economy and integration into the world economic system. As a result of these changes, “China's contemporary cultural features have changed from a single, authoritative voice to multiple voices, from hegemony to plurality” (Zhang, 2007, p.12). The market-driven economic reform initiated in late 1970s has encouraged the development of private entities, allowing news and entertainment content to become increasingly driven by consumer demand and be gradually liberalized from strict top-down control of information flow (Fong, 2007).

The expansion and increasingly market-driven nature of the media industry in China has opened up new spaces for audience participation. In the study on the cultural context of media industry in China, though mainstream discourse by Western scholars’ study on the cultural context of media industry in China has been focusing on the heavy government involvement in censoring media content (Damm, 2007), there is a variance of discourse to examine consumerism and sociality perspectives of new media in China along with the application and penetration of new media technologies. Damm found that Western research on the effects of the Internet on China is not enough to understand how the Internet is being used to promote commerce and sociality, which he believes are more important to Chinese Internet users, most of

whom are relatively wealthy and well-educated elites who are much more interested in using the Internet to do business or socialize than to do politics. Damm (2007) concluded that for the Chinese, business and entertainment are the two primary objectives in using the Internet. The most interesting and important effects of the Internet on Chinese society, Damm argued, "lie not in the creation of public spaces for political activism, but rather in the creation of public spaces for business, play, sexuality, and private life" (p.290).

These studies show that the demand of Internet users in China is mainly for business and entertainment. The next question is: what about the demand conditions of online gamers?

3.2.3 "Me" generation: Consumerism, apolitical pragmatism and sociality thirst

The demographics of the main group o online gamers in China consists of the following features: they are mostly youths between the ages of 18 to 30 (CNNIC, 2007), and they are usually the only child in a family as a result of the One Child Policy China implemented in 1978. Although there is little research on the media consumption in China by academics probably due to the rapid changes that are occurring during this period of socio-economic transformation, a 2007 feature in Time magazine discussed emerging consumerism, apolitical pragmatism and hunger for social interaction prevalent among the Chinese youth,

> "This is the first generation in the world's history in which a majority are single children, a group whose solipsistic tendencies have been further encouraged by a growing obsession with consumerism, the Internet and video games. At the same time, today's twentysomethings are better educated and more worldly than their predecessors. Whereas the so-called Lost Generation that grew up in the Cultural Revolution often struggled to finish high school, today about a quarter of Chinese in their 20s have attended college. The country's opening to the West has allowed many more young Chinese to satisfy their curi-

> osity about the world: some 37 million will travel overseas in 2007." (Elegant, 2007)

The following chapter will examine the history of Chinese online game industry, macro environment and the gamers. Understanding the industry's history and market lays two foundations for the thesis. First, it establishes a backdrop and basic timeline for the industrial analysis that follows. Second, it is an introduction of Chinese gamers and Chinese society, which are the two important reasons for the modification of Porter's model in its application to study the case of China.

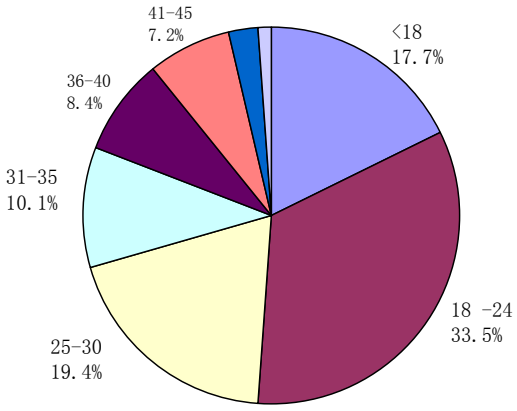
CHAPTER 4 HISTORICAL OVERVIEW: ONLINE GAME INDUSTRY IN CHINA (2000 – 2007)

This chapter discusses the history of online game development in China from three perspectives: the macro environment, the industry and the gamers.

4.1 The macro environment: Chinese economy, IT and media regulation

The Chinese economy has been growing by more than 8% every year for the past 16 years. The country's economic transition from a top-down state planned economy to a diversified market-driven economy has released the productive potential in private business. Following the rapid penetration of ICTs, the country became the second-largest market with the number of Internet users reaching 211 million by the end of the year 2007, second only to the US (CNNIC, 2007). The number of people using the Internet is growing at a rate of 100 people per minute (CNNIC, 2007). Despite the fast growth in user base, the Internet penetration rate for the entire country is still low at 12.3%, lower than the world's average level at 17.6% (CNNIC, 2006).

Figure 3: Age group of China's Internet subscribers



Source: (CNNIC, 2007)

Among the 211 million and rapidly growing Internet users, the above pie chart (Figure 3) further shows that 52.9% of Chinese Internet subscribers are youngsters from 18 to 30 years old. A separate section of the report (CNNIC, 2007) shows that these young subscribers also comprise the largest group of online gamers in China.

From a regulatory perspective, the Chinese government encourages domestic game content that can portray a positive image of Chinese and promote traditional culture, while calling for tighter regulation over the content and importation of foreign games (MC, 2005). At this point, issues such as freedom of speech, control over user behavior, and jurisdictional disparities have not yet received the attention of policy-makers because economic activities in these forums are still an emerging trend.

The Chinese government considers the online game industry an important emerging culture industry that requires policies to support. The national 2006-2010 blueprint requires regulatory bodies to create a favorable environment for resource consolidation, industry expansion, R&D of core technology, education of skillful labor and growth of start-ups for the healthy development of the entire online game industry (MC, 2005). In contrast, foreign competitors in China face multifaceted challenge when entering the market due to a mix of regulatory, cultural and business factors.

Despite the existence of a favorable macro environment and regulation for the development of the Chinese domestic online game industry, criticism of the industry exists. Game playing has been discouraged by Chinese educators because of the traditional belief that playing games saps away people's ambition. The criticism resulted in an anti-addiction regulation imposed by the government to control the time spent on online game (Dickie, 2005). However, this regulation has not yet posed a threat to the revenue growth of the online game industry as a whole. Criticisms of the industry were less voiced in recent years, partly due to the realization that games can have entertainment value and the industry can contribute to the economic development.

4.2 Evolvement of Chinese online game industry (2000 – 2007)

This section demarcates specific eras and explains how corporate decisions, demographic trends and macro environment in China shaped the industry. This history begins with the pre-game era, but focuses on the game boom era from 2000 to 2007.

The industry started with early hobbyists with IT expertise but they did not form their activities as “industry events” until game distributors were set up to release quality foreign game titles. This section discusses how the industry was rapidly formed by starting with game conglomerate to distribute foreign games, learn the production techniques from foreign game publishers, produce self-developed games, and launch homegrown game titles in both the domestic and overseas markets.

The development path of the online game industry in China is exceptional as compared with other countries. There was virtually no online game industry in China until late 1999 to early 2000, when privately-owned local distributors and operators for foreign online games emerged. Most of the foreign game titles at that time were from Korea. Although the Korean games dominated the domestic Chinese market during the period, the Chinese local online game distributors and operators soon began in-house game development, with an agglomeration of both local and foreign firms entering all dimensions of the value chain in game industry (Appendix B). From 2005 onward, the number of Chinese home grown game titles increased rapidly in the local market (IDC, 2006). While dominating domestic market, the Chinese online game titles were exported to various international markets starting in 2005 (IDC, 2006).

The boom period, or a period of rapid expansion, from 2000 to 2007 can be divided into three stages to reflect the level of independence of Chinese local game companies in their product development capacity (Appendix C). Stage I (2000 – 2002) was a period when local game companies emerged as distributors of Korean games and achieved success in the Chinese local market. Data before 2002 is unavailable due to the fact that the industry had not formed itself as a separate IT industry at the time. In 2002, the number of game titles independently developed by local companies surpassed the number of games imported from Korea. Stage II (2002 – 2005) was a period when local game companies began to either develop or incorporate in-house

game development via mergers and acquisition; Stage III (2005 - 2007) was a period when Chinese locally developed game titles prevail on the China market. This stage is marked by the emergence of local game powerhouses, such as Giant and Perfect World. There companies were ranked among the top 5 game companies in China in 2006 (CNNIC, 2007). Each stage of development is discussed in the following section.

4.2.1 Stage I: Introduction of foreign games (2000 – 2002)

The period between 2000 and 2002 marked the emergence of China's online game industry. Shanda, China's leading online game company from1999 to the present, emerged with many other local game operators. This stage of development can be marked by the agentry of popular foreign games. Chinese local online game companies published, distributed and operated foreign game titles. Most of the game titles on the market are from Korea (Appendix C). The game operators paid a proportion of sales revenue as license fee to foreign game publishers to get the local distribution and operation rights.

However, the local-global cooperation was not steady and smooth. Conflicts occurred between the Chinese distributors/operators and their partners over the ongoing modification of online game products in response to feedback from local gamers. The Chinese operators complained that the product modification by their foreign partners in response to continuous feedback from gamers could not be done in a timely manner. Their Korean partners disagreed with them on issues of product modification. There were also uncertainties regarding possible extension or termination of fixed-term licensing agreement led the Chinese domestic game distributors/operators to pay attention to building up their in-house development capacity and to claim Intellectual Property Rights (IPRs) of game titles.

4.2.2 Stage II: Chinese local game companies expand (2002 – 2005)

In the second stage (2002 - 2005), these online game distributors of foreign games including Shanda Interactive started to incorporate new game development capacity by recruiting local talent, mergers and acquisitions, or through partnership with smaller game companies. They extended their role as sole game distributors/operators to both upward and downward in the industry value chain and became conglomerates in game development and distribution. The upward segment of the industry value chain includes their roles as game developers and publishers. The downward segment of the industry value chain is usually product distributors (Appendix B). Though game companies still searched around to look for popular foreign games, these companies simultaneously built their own game production and diversified the distribution channels via mergers and acquisitions. They also established partnership with university and research institutions, hired new talents, enhanced their in-house product development and worked with downstream distributors such as the telecom operators, Internet Café and online game retail stores (Appendix B).

4.2.3 Stage III: Strengthening local/global connection (2005 – 2007)

From 2005 onward, several local game companies, including Shanda, NetEase and Giant, established themselves as game market leaders. In addition, more local IT companies ventured into the online game business. There was a trend of game diversification on the market, especially a resurgence of socially oriented game portals that offered casual games. In this stage, Chinese home grown games dominated the domestic market. Four out of the top 5 popular online games in 2005 were domestically developed, based on traditional legendary stories familiar to Chinese consumers (Morgan Stanley Research, 2004). In 2006, 79 out of the 117 titles of newly launched online games in the China market were developed by domestic game companies, accounting for 71.7% of the total games available that year (IDC, 2006). By this time,

the wave of searching for opportunity of distribution of popular foreign games cooled down.

Though several big companies have consolidated their establishments, newcomers of the industry continued to explore new markets in light of the expanding consumer base. The market concentration for the online game industry remained high since 2003. The top five companies shared a total of 72.7% of the market in 2006 (Appendix A). The market position for top MMORPG operators remained stable (iResearch, 2007). However, the industry was still accessible to new companies. There were untapped market segments as the existing gamers were only 32.6 million, compared to 1.4 billion for China's total population. In addition, China also has 210 million online subscribers and a rapidly growing Internet subscriber base (CNNIC, 2007).

However, the distribution of popular foreign games is still attractive to new local companies that do not have sufficient product development capacity. Some foreign games, for example, World of Warcraft (WoW) from U.S. Blizzard, is one of the most popular games among Chinese gamers. The successful distribution of WoW boosted its Chinese publisher, The9, into becoming the third largest online game company in China in 2006. The9 focuses its main business in the partnership with well-known foreign game developers (iResearch, 2007). Morever, Korean games were still popular among Chinese online game companies.

While the local game industry was taking shape, it started to acquire and merge with local and foreign partners to expand. CDC Games, one of the pioneers of the "free-to-play and item-based sales" model for online games in China, announced in March 2007 it would make a strategic investment in its Korean partner Mgame, the developer of Yulgang. CDC Games became Mgame's largest external shareholder after the acquisition (Souray, 2007). It is basically a clone of the case between Shanda and ACTOZ in January 2003.

Meanwhile, some Chinese online game companies started to export their in-house games to foreign countries. Statistics from General Administration of Press and Publication (GAPP) shows that China exported more than 10 homegrown online games to overseas markets in 2006, generating a total revenue of US$35 million (iResearch, 2007).

4.3 Chinese gamers

When the computer facilities are not luxury items for ordinary Chinese households as a result of robust economic development and increasing disposable income (Wolf, 1999), the pace of the value placed on entertainment in an emerging economy is greatly increased (Latham, 2007). Online games are now an important and diffused entertainment medium in China. The local gamer groups are active, large and rapidly expanding. In China, both the subscription base and growth potential of online gamer is huge because of the nation's large population, continuously increasing disposable income and rapid penetration of Internet broadband service (CNNIC 2006). By the end of the year 2006, there were 32.6 million gamers in China, 18.5% more than a year ago. These figures were expected to more than double to 69 million by the year 2011 with the rapid diffusion of Internet broadband service (IDC, 2007).

Internet gaming is considered as a consolidated product combining culture, education and entertainment into a popular form to reach youngsters from age 18 to 30 (CNNIC, 2007). Chinese online gamers now spend an average of 7.3 hours per week playing online games. They play online games both at home and at Internet Cafés. As PC at home becomes affordable to more and more families and with the development of further broadband penetration in China, Internet Cafés became less popular for gaming (CNNIC, 2006). Currently, a majority of MMORPG players (68.2%) now play games at home. Internet Café is a second important venue to play games (iResearch, 2007). The Internet Café is usually located in residential and commercial area

of both large-sized and small-sized cities in China. Online game industry leaders, such as Shanda and NetEase, received profit from their game sales in middle to small cities.

A national-wide survey to find motivations for game playing among Chinese gamers found that 70% of the gamers played Massively Multi-player Online Role-Playing Game, or MMORPG, for the purpose of entertainment or leisure, while 12% for sociality. The survey was conducted by independent local online game research institute iResearch (2007). It also found that the MMORPGs contain storylines of traditional legendary or fantasy Chinese stories. These stories are winning the local market and becoming the most frequently played games among Chinese gamers. The socially oriented casual games gain popularity among web communities. A separate report shows that China's culturally compatible home-developed online games performed well in 2005 and that they acquired the dominant share on the market, surpassing their South Korea and US rivals (IDC, 2006). Four out of the top five most popular online games were developed domestically and four of them were based on Chinese classical stories (CNNIC, 2006).

A separate nationwide survey shows that 53.5% of the online gamers prefer to play a game associated with traditional and legendary Chinese stories, while 24.2% of them favor the magician stories from US and Europe (iResearch, 2007). Aside from the role in playing games, there was a rise of socially oriented game titles popular among female and elder age gamers. Networked social functions have become standard features in most new game titles.

With the rapid growth of this new media industry, academics, government and industry strategists are becoming more aware of the social and economic forces beneath the industry. To get empirical data, I interviewed senior managers of Chinese online game companies to Beijing and Shanghai from November 23rd, 2007 to December 23rd, 2007.

CHAPTER 5 METHODOLOGY: INTERVIEWING SENIOR CORPORATE MANAGERS

To study the dynamics of online game industry in China, I used semi-structured interviews as my research methodology. The primary research data was collected from personal interviews with 18 senior managers from 15 Chinese online game companies.

There were three main reasons why I interviewed these industry entrepreneurs. First of all, the high media concentration in the online game industry of China (Appendix D) allows me to choose the 15 leading companies that account for more than 80% of the total market share as representatives of the whole industry, which means the research sample can be focused on the leading companies. Secondly, the online game industry in China is an emerging industry in which personal emotions, values and attitudes are more important in the strategic decision-making for the industry and company formation (CNNIC, 2007). Thirdly, the importance of entrepreneurs in the development of Chinese game industry, as these entrepreneurs are usually the controlling shareholders of small private companies to compete in the local market of China, which means the emergence of Chinese online game industry is an emerging new media phenomenon compared with new media industry in other countries. The industry did not start from innovative game products developed by enthusiasts, hobbyists and IT savvy people, as was the case in the U.S. (Dmitri, 2002), nor did it flourish with support and guidance from the government policy and the associated preferential treatment, as was the case for Korea (Chung, 2008). The fortunes and failures of major online game companies can be explained as much by the management and marketing initiatives as by proper understanding of Chinese consumer base. Public information filed for the US and HK securities regulators show that senior management for most Chinese online game companies are usually the controlling shareholders of the company. These Chinese entrepreneurs have proved to be emerging players that are

competitive to their global peers. They have been very effective in adapting business models to Chinese business environment (Morgan Stanley, 2004)

The purpose of the field work was to get an understanding of the four determinants of the Diamond model: factor conditions, demand conditions, supporting and related industries, as well as corporate strategy, structure and rivalry (Appendix F).

The companies I interviewed include NetEase, Perfect World, Sohu, Kingsoft, Apex, Moli, Tianchang, Iyoyo, Shanda, NetDragon, The9, Joyzone, Giant, Optic Communications and Quarter Digital. Most of these companies are leading online game companies that collectively cover more than 80% of the Chinese online game market in terms of revenue (iResearch, 2007). The market share is calculated based upon financial figures released by the online game companies that are listed on US and HK stock exchange (Appendix D). Eight online game companies that I interviewed are listed in either New York or Hong Kong and, hence, the company websites provided updated and audited financial figures to the stock exchanges. Appendix D shows that the eight online game companies that I interviewed covered 72.08% of the total market in terms of revenue in 2007. The unlisted companies, like Joyzone, Moli and Tianchang, may occupy more market share than some of these listed companies, but they are not included in Appendix D due to unavailability of their financial results.

Most of the interviewees were with top management who dealt directly with corporate strategy and marketing. Except for NetDragon which is headquartered in Fuzhou in Southern part of China, all the other companies were either based in Beijing or in Shanghai, China. Nine out of the top ten online game companies are based either in Beijing or in Shanghai, China (iResearch, 2007). The companies included in the field work were NetEase, Perfect World, Kingsoft, Sohu and Apex were conducted in Beijing and with Moli, Tianchang, Iyoyo, Shanda, The9, Joyzone, Giant, Optic Commu-

nications and Quarter Digital in Shanghai. The interview with NetDragon was done by telephone.

In my research, the statistics data come from three main Chinese statistics institutions, CNNIC, 17173, and iResearch, and one international institution, IDC. These institutions monitor and compile statistics reports on the Chinese online game development periodically in recent years. The CNNIC is a statistics institution and subsidiary to Ministry of Information Industry (MII), China's national regulator for information industry. While 17173 and iResearch are two independent and privately owned market research institutions monitoring exclusively the Chinese Internet related markets, IDC is a well-recognized research institution for IT research worldwide.

5.1 Fieldwork in Beijing and Shanghai, China

To ensure smooth execution of the fieldwork plan, I initially approached reporters covering the Chinese new media industry to obtain independent third-party comments in September, 2007, two months before the fieldwork. This was part of an attempt to get updated information of this industry and refine the interview question list. I talked with two reporters covering the new media industry via MSN about questions or concerns that I should expect.

Regarding the criteria of recruitment, the potential subjects that I planned to approach are middle to top level management responsible for corporate strategy or marketing in the fifteen leading online game companies in China. The selection of these companies is based on the market share, location and growth. The first criteria of interviewee recruitment is the market share of the corresponding company as I want to ensure the research samples in combination can cover as the largest market share as possible. Secondly, the location of the target company is important as China is big and there is a budget limit for the fieldwork. Thirdly, I also look at several small but high-

growth companies that are covered by the latest media reports as I try to find out the sufficiency of resources available for the new comers in this industry.

The information I planned to collect was based upon the competitiveness advantage model by Porter (1990). Specific interview questions are listed on Appendix G. During the interview, I give the interviewee a copy of the Introductory Letter (Appendix F) and show them the list of questions (Appendix G) that I intend to ask. This was to obtain their consent to participate in the research.

From November 24th to December 7th, 2007, I interviewed 5 managers from 5 different online game companies in Beijing (Appendix E). Four of the companies were ranked the top 10 in China in terms of annual revenue in 2006 (iResearch, 2007). The remaining one is an emerging and fast-growing game company.

Ten interviewees allowed audio-taping of the interviews. The rest refused because they were fearful that their comments might arouse any conflict of interest with peer companies. The transcribing and translation of the audio-taped interviews were completed on January 15th, 2008.

5.2 Evaluation of the fieldwork

Through the interviews I gathered data on their corporate history and learnt about their corporate structure, development strategy, blueprint, as well as perceptions and comments on both the local and global interactive entertainment market from top executives of 15 Chinese online game companies that comprise of more than 80% of the total market share in terms of revenue in China's online game industry.

The approach and recruitment of target interviewees were primarily the same as I originally planned, 12 companies were selected based on their annual revenue, the other three were selected based on their growth potential or unique business development strategy as shown on the media reports. (iResearch, 2007).

The data from various sources differed from each other, especially on the corporate development strategy and the comments on the macro environment of the industry. Each company has a unique strategy to pursue their business. The overall responses to the interview questions will be discussed in Chapter 6 and 7 and will be categorized to fit into the proposed research framework for my thesis.

CHAPTER 6 STUDYING DYNAMICS: BASIC APPLICATION OF THE DIAMOND

This chapter tries to find out the dynamics of Chinese online game industry using Porter's Diamond model (1990) as key analysis outline to examine the four determinants one by one and to outline sources of competitive advantage for the industry. Through the fieldwork interviews, I gathered data regarding the corporate history, structure, development strategy, marketing plan, blueprint, as well as perceptions and comments on both the local and global interactive entertainment markets from top executives. Having set the theoretical framework and obtained the primary research data, I am moving on to fit the research data to the theoretical framework.

The theory application is in light of the analysis outline initially developed by Ren & Yang (2005) in their study of the Chinese online game industry. However, my analysis of Porter's model, as explained in Chapter 3, covers more aspects than the one used by Ren & Yang. Hence, the data used to examine the four determinants are different from theirs.

Beyond the basic application of the Diamond that goes through the four determinant categories of competitive advantage one by one, I also try to encompass both the four determinants and the external influencing factors, as learned from the fieldwork, to try to get a more comprehensive overview of the industry.

In the analysis section, pseudo names are used in the citation. This is to protect the privacy of these interviewees.

6.1 Basic application of the diamond

(a) Skilled labor

Skilled labor is one of the "key" factors hardest to imitate and more valuable for competitive advantage. In response to the major advantages and major concerns in factor conditions of the online game production and operation, the interviewees ex-

pressed their confidence in the skilled IT professionals. China has a tradition of strong IT and engineering education. Skills have been substantially strengthened in the past two decades, laying a foundation in the formation of specialized labor in new media development.

> "All of our products are developed in-house because we were initially a software developer. We have a large proportion of staff from Tsinghua University, China's top science and engineering institute (Mr. Chen from Perfect World, interviewed on Nov 29th, 2007 in Beijing)."

The pool of skilled labor builds up along with various alliances with research institutions and universities.

> "We have many projects of working with top universities to train talents for game development and design (Mr. Ding from Shanda Interactive, interviewed on Dec 19th , 2007 in Shanghai)."

An alternative source of talent building is mentioned. Electronic Art (EA) and Ubisoft as the world leading game publishers were mentioned as potential talent trainers.

> "The foreign big names, like EA and Ubisoft, outsource their product development in China, they have their in-house development establishment in China, which I see a construction of human capital pool for Chinese online game industry. Well, obviously, the Chinese developers for EA may leverage what they have learned from EA and may want to replace the EA brand with their own one some day later. It may take a long time, but I think it is a matter of time (Mr. Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

The "training" includes not only product development, but also project management, as Lin mentioned,

> "This may ultimately train local professionals to learn new way of management, build specialized skills for market niches or project

> management (Mr. Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

The initial foundation for growth was university graduates major in computer science for downstream skills, which are required for production and maintenance. Now it is focusing more on the upstream skills required for design and content. Though the skilled labor for production and maintenance work are building up, the interviewees mentioned the pressure of innovation and the lack of experienced professionals in game design and content. As the online game industry initially imitates Korean and US titles and the Chinese online game industry history is short, there is a lack of experienced professionals on the job market. On a backdrop that all the leading online game companies are rapidly expanding, many interviewees expressed that their concern to recruit experienced labor with innovative game design and story ideas.

> "We need all kinds of experienced game professionals, but we are especially looking for skilled professionals in game design and story writing (Mr. Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

When talking about the marketing and client servicing professionals, Mr. Wen said,

> "They are surely important to activate the virtual community. We have hundreds of staff involved in customer service. They are usually game fans, some of whom are what we called the 'professional gamers'. They enjoy their work of playing games as their profession. A typical working day for them is that they play games, stay online to interact with other gamers, dealing with phone calls and virtual messages from gamers, and sending client feedback to R&D department to timely modify our game titles, sometimes, they initiate some events online to attract more gamers (Mr. Wen from Joyzone, interviewed on Dec 19th, 2007 in Shanghai)."

The national online game technology mastery is believed to be second only to Korea in the world. Almost all the interviewees expressed confidence in their in-house online game technology in graphics design and animation.

> "All of our products are developed in-house because initially we were a software developer. We have the know-how to produce high-end quality 3D titles, comparable even to those from Korea (Mr. Chen from Perfect World, interviewed on Nov 29th, 2007 in Beijing)."

One interviewee talked about foreign markets to show the quality of their game titles.

> "I bet the quality of our games is of world's leading standard. Our game is the most popular game in some Southeast Asian countries like Vietnam (Mr. Zhao from Kingsoft, interviewed on Dec 6th, 2007 in Beijing)."

Though cautiousness remains,

> "I think the quality of our online game product is comparable in global market place. I have been in frequent business trips to Korea and US to learn about the industry and product updates around the world. I know that Chinese online game publishers are almost reaching the level of their Korean counterparts in terms of graphic design and other technical aspects, but we are still learning from them (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

However, recruiting skilled labor is still difficult for companies as the industry grows rapidly. Ms. Li said,

> "Customer service department needs to recruit hundreds or even thousands of staff to timely respond to increasingly larger groups of online gamers (Ms. Li from Sohu, interviewed on Dec 5th, 2007 in Beijing)."

The skilled labor for Chinese online game industry contributes to competitive advantages of the industry not only in the mastery of advanced technology, second only to Korea (Morgan Stanley, 2004), but in their expertise of marketing and client service for the local market. Though there is an insufficiency of skilled labor to come up with the expanding market.

(b) Capital

Capital is another important "key" factor for competitive advantage. The Chinese online game companies, especially those listed on overseas stock market, are financially adequate for corporate development and expansion, not only because of the funds raised from stock market, but because online game companies earn a lot from the domestic market.

> "Money is never an issue for leading online game companies. You will never hear any big online game company to be fearful of capital inadequacy. I should say that all the listed online game companies in China do not have to worry about capital resources. China has ten overseas listed game companies now. We are a Nasdaq listed company with 300 million yuan in cash flow category only, I am sure so does other big names. Even smaller companies with 2 to 20 staff could get private equity or venture capital to develop their unique business (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing) ."

With adequate capital, the investment by these bigger game companies is aggressive.

> "We are discussing to acquire or cooperate with smaller rivals each and every month. We have an "18 Plan" and a "20 Plan", which means in the 18th and 20th of each month, we are talking about purchasing or cooperation with smaller game companies, including the developers, web design companies and so on (Ms. Hua from Shanda Interactive, interviewed on Dec 19th, 2007 in Shanghai)."

But not all interviewees are as optimistic about the capital adequacy as him. An increasingly competitive market might not be rosy to smaller online game companies. The survival of start-ups may depend on venture capital injection or being acquired by larger rivals as the financing market is highly competitive.

> "Many start-ups are flooding into online game business, but several months later, more than 99% would disappear due to financial difficulty (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

Though difficult and challenging for smaller companies, venture capitalists are actively searching for opportunities to get into the Chinese new media industry. While there are opportunities, the competition among start-ups adds pressure in business planning and strategy.

> "I have been in this market for several months, I have talked with a lot of venture capitalists to get an investment. We just got one million US dollars from IDG. Like money-hungry start-ups, many investors are concurrently actively searching for opportunities to enter this market, it is not that difficult as long as you have a persuasive profit-generating story (Mr. Wang from Apex, interviewed on Nov 30th, 2007 in Beijing)."

The financing opportunity for the Chinese online game industry in general is highly competitive. This may have a mixed effect for the growth of the industry. On one hand, it is supportive for the expansion, product development and management of larger online game companies, but on the other hand, it is difficult for the smaller peers to survive.

(d) Infrastructure

Statistics have painted a bright picture of the infrastructure improvement for the online game industry, the rapid penetration of broadband service and favorable macro-

economic development are undoubtedly supportive, but interviewees complain the service about the Chinese duopoly telecom operators.

> "Time lag among the gamers in game playing due to the usage of different servers managed by two different telecom operators is probably the major headache now. Gamers in the northern part of China have to choose the Internet server provided by China Netcom, while those in the South have to use server from China Telecom. There is always a time lag if they use different servers to play one game (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

But this infrastructure problem does not seem to concern online game companies.

> "It was a serious problem in the past, but now my feeling is that it is ok, the broadband service is improving, the penetration of broadband service to individual families is fast, though it lags behind Korea. The maintenance of servers requires follow-up communication between the game operators and telecom operators, but I have never heard of a case that subscribers leave due to Internet service. Besides, the telecom companies are very cooperative, after all, they benefit from this business (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

The Chinese IT infrastructure construction has so far greatly helped the diffusion of online games in China in the past decade. Though it is not a concern for the industry yet, it is still not comparable with leading IT nations such as Korea, Japan and US.

6.2 Demand conditions

Demand condition is considered as the single most powerful determinant of competitive advantage by Porter. In response to questions on consumer demand, Mr. Lin's general opinion is echoed by all the interviewees,

> "Ultimately, it's the accurate diagnosis of the demand on the market that counts. I played games almost every day, whenever I have time, because I want to personally experience the game as an ordinary gamer (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

The demand conditions can be illustrated from market size and growth, as well as the sophistication of consumer demand.

(a) Market size and growth

Market size and growth are important indicators of the domestic demand. The historical overview chapter shows that the market size with 1.4 billion population, 211 million of existing Internet users and continuing growth as well as higher family disposable income have encouraged corporate expansion and economies of scale.

> "Obviously China with a population of 1.4 billion is a huge market. There are so much potential to explore. We, as one of the top three online game companies, have only touched a very small slice of an iceberg. Our subscribers are mostly in small and medium-sized cities, different from those for other leading companies (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Market size and growth encourage expansion of firms and economies of scale. In an effort to serve a rapidly expanding group of gamers, the interviewees talked about corporate expansion as a result of a continuously expanding market.

> "We hired several hundred new staff for the past year, we are still actively recruiting." (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007)

(b) Sophistication of local buyers

As discussed in Chapter 2, Ruth (1999) suggested that the social history of a new technology should focus on consumers as they decide whether to adopt it or not. Sophistication and demanding domestic buyers push the firms to provide better products

and services. The fieldwork data shows that success or failure of Chinese online game industry depends on the ability of correctly anticipating domestic demand. However, this type of forecasting is not easy.

> "The most difficult thing in this world is to learn the in-depth demand of consumers. There are so many segments of gamers, some may prefer making new friends, some may like combating, some may want to show off their virtual property, it is very hard to predict. But this is the key. Whoever knows will surely win (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

As a result, different companies are targeting different segment of gamers.

> "The gamer group that we target is substantially different from that for Giant. We just design and modify our game products based on demand of our specific gamer group (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

But consumer demand is not static with gamers experience, tastes and interests constantly shifting.

> "In recent years, I think there are basically three substantial changes in demand: First of all, preference from time-based game to free-to-play or avatar-based; Secondly, popularity of 3D game, gamers' requirement for beautiful virtual landscape increase. Broadband service also encourages 3D game; Thirdly, community building, gamers are more likely to build up communities and convert online relationships to offline ones (Mr. Bai from Tianchang Tech, interviewed on Dec 13th, 2007 in Shanghai)."

The sophistication of local gamers pushed the firms to provide better products or services, translating to a competitive advantage of the industry.

6.3 Related and supporting industries

The emergence and evolvement in online game industry has opened up numerous opportunities for related and supporting industries to facilitate the formation of industry clusters. The major supporting industries including game and animation developers, telecom operators and Internet cafés earned 33 billion Yuan (US$4.3 billion) from online game related business in 2006 (CNNIC, 2007). The fieldwork data shows that there is a set of strong related and supporting companies located nearby the online game companies.

Relationships with related companies, such as telecommunications, do not seem to provide any particular competitive edge for the established online game firms. Telecommunications service is important and closely related to the online game sector. But these links are mainly related to the server maintenance.

> "We are moving from pure game operator to agglomerating of game development, marketing, operation and customer service primarily via mergers and acquisition of quality and small teams. Technology spillover is unavoidable as other peer companies can mimic our product once it is launched on the market. The online game industry is a highly lucrative business. Our business has to be strongly supported by the related telecom operators, as well as the local government (Ms. Sun from NetDragon, telephone interviewed on Dec 17th, 2007)."

Increasing visibility of upper stream industries, like the Chinese movie industry, has had a spread effect into the local game industry. International demand for culture products with Chinese martial arts and history has supported the movie and animation industries, causing a rippling effect to the online game industry. These industries can supply high quality and low cost inputs, stimulate new ideas and synergy among movie and game industries.

> "Many of our flagship titles are based on movies. The International edition of Perfect World features in fine design and martial arts, which is first introduced to the West in movies. Our to-be-launched product, Chibi, is derived from a movie with the same name. Another flagship title, Zhuxian, is based on a popular web novel (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

Industry clustering was identified and evaluated. In my investigation, the Chinese online game companies are mostly located in the hi-tech areas in Beijing and Shanghai.

In Shanghai, Ms. Hu from Quarter Digital said,

> "We are in Zhangjiang Hi-tech Park in Shanghai, there are many graphics and animation studios inside our office building (Interviewed on Dec 20th, 2007."

In Beijing, Ms. Li had the same experience,

> "Most online game companies, or I should say IT related companies are located in Zhongguancun area, central area for high tech firms and universities, including Peking University and Tsinghua University (Ms. Li from Sohu, interviewed on Dec 5th, 2007 in Beijing)."

An obvious advantage is the easy and quick adoption of technologies inside the industry clusters.

> "For related industries, our strategy is simple, through mergers and acquisitions, we have an 18th Plan, which means that on the 18th of each month, we will comprehensively review the small but quality game R&D teams around the nation and discuss our acquisition target. We also have a Feng Yun Plan, in which matured game operators are reviewed for possible acquisition and cooperation (Ms. Hua from Shanda Interactive, interviewed on Dec 19th, 2007 in Shanghai)."

Clustering of supporting and related industries supports the expansion and operation of online game companies. However, there is a mixed effect of concentration of peer companies in the same region. The technology spillover helps new entrants to come up with first movers, but job hopping of employees among peer companies may weaken the effect.

6.4 Firm strategy, structure and rivalry

(a) Firm strategy, structure and their adaptability to national environment

The data I gathered from the fieldwork shows that there is no fixed model for success. Different companies have a unique style of corporate strategy and understanding of competition to target different category of gamers. However, these companies have many commonalities that are aligned with the sources of competitive advantage. The corporate style of management and ownership structure are adaptable to the national attitude toward wealth and success. First of all, most managers of Chinese online game companies are young and open-minded.

> "There is no hierarchy thing. It is a young industry, almost all the senior managers are in their thirties (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Moreover, a young industry leads to a flat management structure and a flexible style of communication. The corporate culture encourages the internal exchange of ideas and helps stabilize the team.

> "As far as I know, nobody leaves the company for the reason that his/her idea is not accepted or considered by the management, instead, ideas are strongly encouraged. As long as you work out a viable proposal, you can be entitled to lead the proposed project. It happens every now and then. The online game team is very stable and committed to our product and business (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Beyond the flat management structure that encourages ideas among different levels of the organization, there is a transparent stock-holding ownership structure and a share-reward incentive scheme. The ownership structure and incentive schemes motivate both the owners and the senior managers.

> "Top management members have their share of stock options. This is public available information that can be retrieved online, from Nasdaq and various business information providers (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

While corporate strategy and incentive systems allow the corporate goals to be aligned with sources of competitive advantages, the national attitude toward success and entrepreneurship additionally encourage youngsters to venture to this industry.

> "This is an emerging and fast-growing industry, there are so many new opportunities and potential, almost all the top and middle managers can enter this industry without any Guanxi (or special relationship with higher-ups) or superiority over others, many of us are just game fans. I am 32, I worked for this industry motivated purely by my personal interest in playing games. I started from scratch as a junior sales, became marketing director in four years, now I am COO (Chief Operation Officer) in this Nasdaq-listed online game company. " (Mr. Li)

Fast career track and wealth prospects have even motivated talents from other industries to transfer to online game industry.

> "I was in architecture industry three years ago, I entered the online game industry because I am a game fan and this is an amazing area. It is not easy to make the transition, but this industry is so exciting…you can become a millionaire even when you are in your 20s (Mr. Wu from Optic Communications, interviewed on Dec 14th, 2007 in Shanghai)"

(b) Rivalry

The interviewees believe that the intense domestic competition among rivals has led to the sustainability of competitive advantage. The extent and impact of domestic competition in China's online game industry is important to motivate the entire industry. In domestic-oriented work, it is reasonable to conclude that there is a strong competitive pressure, and there are signs that this competition has fostered new product development. It has also encouraged creative marketing, cost efficiency, quality improvements and pressure for companies to explore new markets domestically and internationally.

> "The industry is dominated by privately owned companies; barriers to entry and exit are relatively low, and there are dozens, if not hundreds, of new entrants each year. As a result, thousands of companies jostle for a place in the online game market, creating an additional pressure of competition (Ms. Hu from Quarter Digital, interviewed on Dec 20th, 2007)."

The easy entry barrier for new companies can be illustrated in the story of Giant. The company was founded in 2005 and became one of the top three online game companies in China in 2007.

> "It is a risky business because the industry is growing fast and creating new opportunities for newcomers. Giant itself is a good example, we launched our first products in 2005 and became the top 3 in 2007. The market dominated by several majors is volatile. Once there is a new company with good titles and venture capital, it is likely that they can surpass some majors. In China, new game title debuts on the market almost every day, but more than 99% failed (Mr. Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

Though the interview targeted different gamers, they shared a common attitude toward domestic and foreign competitors. Domestic rivals are considered major competitors on the Chinese online game market.

> "Direct competition comes from domestic rivals, though different companies target different categories of consumers. We do feel pressure from them and want to know what our peers are thinking about (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Foreign rivals generally do not compete in the Chinese domestic market. These foreign companies use China as R&D center. The strategies adopted by multinational game companies including EA and Ubisoft, are a continuation of offshore management model rather than an innovation.

> "These companies are not competing with us on the domestic market. I don't see them as foreign rivals because we are targeting a different market. EA and Ubisoft, though big names, their standing in China is rather beneficial than threatening. China is currently an outsourcing center of EA and other foreign brands, the cost efficiency is obvious, relatively lower cost of human capital. In US, it costs US$200,000 to hire a senior game developer, but in China, it's RMB200,000 (US$29411.76:USD/RMB=6.8), only 1/7 of the US standard (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

If foreign companies start to explore the Chinese online game market, they might face a challenge: how can the institutional infrastructure established in their own country be simultaneously supportive to a different structure seen in online game industry in China? This partly explains why foreign rivals need to cooperate with a Chinese local partner.

> "It is true that Korean game developers make state of the art games, but success of an online game requires a lot of follow-up services and modification of game titles after it launches to the market (Ms.

> Hu from Quarter Digital, interviewed on Dec 20th, 2007 in Shanghai)."

In summary, the basic application of Porter's model shows that there is a competitive advantage based upon variables such as market size and growth, sophistication of domestic demand, building up of advanced labor skills, aggressive participation of capital, increase in domestic competition, agglomeration of supporting industries, as well as adaptability of firm strategy and ownership structure to national environment and attitude.

However, the two influencing factors lying outside the Diamond, or "government" and "chance" as suggested by Porter (1990), do not seem to match the analysis of this industry. Chance, as defined by Porter, usually refers to major changes in macro environment, such as war, substantial change in demand, drastic shift in exchange rate, or major technological breakthroughs or inventions, etc. The government influence also stands outside the Diamond because Porter believes that government itself could not create competitive advantage, but can place positive or negative influence on the four determinants via its policies. But these two factors for the Chinese online game industry do not seem to play important role in the evolvement of the industry. There is no abrupt change in macro environment and demand, nor a technology breakthrough for a follower nation. The role of government is limited in the industry made up of private entities that grow rather independently from government plan, support or subsidy.

> "I rarely heard of government support for this industry, the dynamics come from the bottom, or at least at the industry level, it is not a government directed industry, but grows rather independently. (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

The media censorship imposed by the government over game titles does not affect the industry much, either. Though China, as an authoritarian country, tends to protect the local culture market, the import and export of online game titles has not been censored as traditional culture products like print publications or TV programs.

> "I don't think there is any media censorship in the import of foreign game titles. But of course, the content of the game should not hurt the interest of Chinese government and people. In US, it might be possible, I am not sure, just in case, for the online gamer to attack a virtual government building, but in China, it is a taboo to bomb a virtual building like Tian'anmen Square, it is politically sensitive. It's just like that it is a taboo to use signs of Nazis in Germany (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Since it is difficult for the two external influencing factors suggested by Porter (1990) to explain the Chinese online game industry, in an attempt to provide a comprehensive picture of the dynamics of online game industry in China, other variables must be studied. In my fieldwork, I found that the external influencing factors for the four determinants of Chinese online game industry are closely related to Chinese transitional society, culture and the linkage of local economy to the world. I am elaborating these variables in the next chapter.

CHAPTER 7 BEYOND THE DIAMOND

As mentioned in Chapter 3, Chinese social context can be highlighted by transition from top-down planned economy to a decentralized and opening up economy that encourages private business and local-global cooperation, growing up of single-child population that values consumerism and sociality, as well as a traditional collectivistic value that defines an individual in terms of relationship with others.

The fieldwork and the ethnographic data of gamers show that the external influencing factors for the sources of competitive advantages derive from variables associated with the Chinese transitional society, culture, and the opening up of the economy. These variables are not included in Porter's model, but constitute socio-cultural factors contributing to the diffusion of online games and generating more dynamics for the industry. I studied these variables in an attempt to provide a more comprehensive explanation of the current state of Chinese online game industry, its gamers and the macro environment it is growing at.

7.1 When Chinese society meets new media

Similar to the Western scholars' concerns of violence and isolation inducement nature of games, the Chinese traditional culture criticizes game play for fear of its distraction inducement nature from daily and routine work. However, in recent years, that criticism has been downplayed with the Chinese economic reform and open-door policy that encouraged decentralized economy and integration into the world economic system. I am going to explain in detail how the Chinese social context nurtures the evolvement of the online game industry.

7.1.1 Collectivistic value & virtual team

The Chinese collectivistic value motivates people to value their relationships and social obligations within a winning team. Though diversified consumption taste and

motivation in playing games, aspiration for team work, interest in interpreting other people's actions and effort to build self-identity in virtual world might be of major motivations for playing martial arts or PK games.

In Chinese collectivistic preference, self is identified in terms of relationship with others and social responsibility. Staying in a winning team to combat others is one of the aspirations of gamers,

> "The most favored games are MMORPGs in either martial arts or PK that require team work to win (Ms. Sun from NetDragon, telephone interviewed on Dec 17th, 2007)."

The interest to interpret and forecast other people's actions or motivations might be another reason for the Chinese gamers to join MMORPG.

> "It's always interesting to guess strategies from other teams and collaboratively work out a winning plan (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

The strong identification with the game indicates a difference between collective cultures identified for the East and individualistic cultures for the West. Ms. Hua sees this difference among western gamers and Chinese gamers in their preference for console games or online games:

> "People in Europe and US like to play console games, at least it is the fact at present, console games tend to encourage development of individual potential, they are more interested in conquering more difficult and complex games in the process of playing (Ms. Hua from Shanda Interactive, interviewed on Dec 19th, 2007 in Shanghai)."

Proper understanding of the collectivistic value explains the success of Zhengtu, as Mr. Lin said,

> "We pioneered in launching our free-to-play game titles, or you may call it item-based business model, and became very successful. But this model does not mean that we could not make money, though 80% of our gamers do not spend a penny, we can still make money, why? Because Chinese gamers, or consumers have a different habit of consumption, they enjoy collective work, stay in a winning team, show off their superior items to establish identification, and etc. And we provide such a platform. (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

7.1.2 Decentralized economy & diversified consumer demand

China's economic reform transformed the centralized planned economy to a decentralized one. As a result, Chinese culture has changed from an authoritative voice to one with multiple voices (Zhang, 2007). Diversification of demand comes from appreciation and acceptance of different cultures. An interviewee from a small game company states that the insertion of European cultural elements in the game title can attract more Chinese gamers:

> "The huge success of WoW in Chinese market is a proof that Western culture is widely accepted by Chinese gamers (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

An interviewee from a small game company thinks that the insertion of European cultural elements in games can attract more Chinese gamers.

> "We want to target the domestic market in an indirect way. We want to sell our products in European markets before returning to China. We believe that the European element of our game title could help boost sales in Chinese domestic market (Ms. Hu from Quarter Digital, interviewed on Dec 20th, 2007 in Shanghai)."

Diversification of demand also comes from the consistent appreciation of traditional culture and home grown games by the Chinese local publishers.

Mr. Zhang from Neteast, China's third largest online game company in terms of revenue, sees strong demand for these games.

> "For Chinese people, home-grown games are like tea and the imported ones are like coffee. Other companies might have a different idea, but we think that most Chinese will choose tea (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Diversification of consumer demand can be found in the import and export of game titles. The import of foreign game titles lays the foundation for the industry and is important in diversifying industry supply.

Most of these game titles come from Korea,

> "This industry as a whole started as copycat of Korean games. Korean games are still very attractive to gamers due to its perfect quality and design (Mr. Gao from Iyoyo, interviewed on Dec 13th, 2007 in Shanghai)."

Some are from US,

> "WoW from Blizzard is still one of the top three game titles on the market. That game is like a cash printing machine for The9, the Chinese agent and operator of this game (Mr. Wen from Joyzone, interviewed on Dec 19th, 2007 in Shanghai)."

The import of quality foreign games does play an important role in diversifying industry supply. However, the threshold for foreign game titles to enter the market is raised mainly due to policy and cultural constraints. The cultural constraint does not derive from the content of the product itself, but from the lack of daily interaction with the local gamers by the foreign game publishers.

> "There is a trend that Chinese locally developed game titles are gaining popularity and the foreign games are decreasing. The key here is that the home grown games can immediately respond to the demand and requirements raised by the local gamers, while the

> foreign publishers could not. There are many options on the online game market, gamers are very demanding. Local operators have the advantage of being familiar with local culture and, consequently, in-depth understanding of consumer taste via daily interaction with online gamers (Ms. Li from Sohu, interviewed on Dec 5th, 2007 in Beijing)."

7.1.3 "Me" generation: Sociality & consumerism

Chinese gamers are mostly youngsters from 18 to 30, a majority of whom are the single child of the family as a result of China's one-child policy instituted in 1978. They are called the "Me" generation as they are the only child in the family, so there is a natural thirst for socializing in this single-child generation.

> "I think the success of our game and Tencent may be because of China's one-child policy that has made the new generation to feel lonely, and hence, they are more eager to interact with others (Mr. Zhang from NetEase, interviewed on Nov 28th, 2007 in Beijing)."

Consequently, the function for sociality, rather than for intellectual achievement, of the online games was noted by game companies. Ms. Li from Sohu said,

> "Chinese gamers are interested in pursuing a high social status in the virtual world, becoming a band leader, leading a group of people to win something. The Chinese gamers may not be very interested in intellectual games. The foreign gamers might be more interested in their personal intellectual achievement conquered in the game (Ms. Li from Sohu, interviewed on Dec 5th, 2007 in Beijing)."

The online game platform itself is a good social space for group entertainment. These gamers are critical in voicing their complaints online or via phone call whenever they come across a problem in playing the game. Some demand high in game design,

> "The gamers, I am not sure, like to play our games maybe because of the beautifully designed virtual space and the possibility of showing off. We offer beautiful clothes and shining weapons, as well as fantasy game stories (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

Most gamers demand fast and interactive customer service,

> "Gamers are increasingly demanding. Customer service is a very important department, we need to pay attention to customer feedback ASAP, otherwise we will lose them, there are so many game titles to choose from (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

The consumerism is also illustrated in an extreme case of building a higher social status via showing off his wealth,

> "Some gamers just want to purchase shining weapons and branded clothes in the virtual world. They do not even join or may not be interested in any battle or activity at all. There is one gamer, who keep standing on the street for several months, spending more than RMB100,000 yuan (US$14,285) per month to buy the best weapons and clothes (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

The "Me" generation's thirst for sociality, their preference for working in a winning team and their heavy consumerism are the main forces behind the rapid diffusion of online games in China. Their continuous demands in terms of both game design and service during game playing has created constant pressure for game companies in their game title development and modification.

7.2 When Chinese economy opens to the world economic system

China's open door policy allows foreign products and capital to be brought into the Chinese economy. In the import of game titles, the local-global linkage leads to an initial supply of online game titles on the Chinese market.

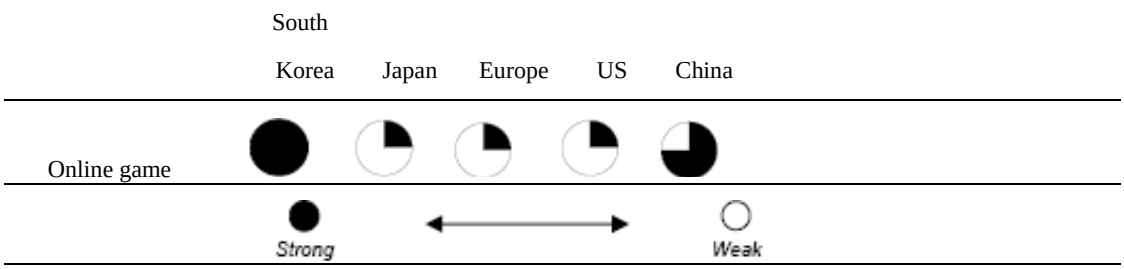
> "Without import of Korean games, Shanda and other early local game companies would not have emerged and expanded (Ms. Li from Sohu, interviewed on Dec 5th, 2007 in Beijing)."

The local-global linkage facilitates synchronization of new media technology of a follower nation to be in line with international market leaders. It can be illustrated in cross boarder technology transfer for online game production.

> "Internet related industry is the only industry that can go together with the world leading standard or allows followers to quickly come up with their advanced rivals (Mr.Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

A report from Morgan Stanley (2004) shows that China has mastered advanced online game technology, behind only to Korea, but far above Japan, Europe and the U.S. (Graphics 1). The graphic shows rapid industry development since 2000, when the burgeoning Chinese online game companies were not able to produce games, but imported games from the other four countries.

Graphics 1: Relative Internet Technology and Service Leadership



Source: Adapted from Morgan Stanley Research, 2004

Note: The Graphics also appears on Ren & Yang's article (2005) to illustrate technology mastery of the Chinese online game industry

However, with increasing local-global business connections, technology mastery is not considered as one of the "key" factors. Though still a follower to Korean online game industry, the interviewees seemed not worried about the technological challenges as they believe that technologies can be acquired easily through purchasing, business cooperation, mergers and acquisition, as well as hiring of experienced talent overseas.

> "I think the engine and techniques, as long as it can be bought from quality suppliers, it is no big issue, nor an obstacle. In this industry, human capital is the biggest asset. Well, many game companies are now hiring experienced staff from Korea (Mr. Ding from Shanda Interactive, interviewed on Dec 13th, 2007 in Shanghai)."

Aside from import of talent, capital and advanced technology, the local-global linkage encourages some to explore the overseas market as they believe that the game industry can benefit from the acceptance of martial arts products in the movie industry.

> "Chinese culture product, like the martial arts movie, is accepted in the Western countries. We believe that there is a big overseas market to explore (Mr. Chen from Perfect World, interviewed on Nov 29h, 2007 in Beijing)."

The linkage also helps nurture a talent pool in management and technology as many entrepreneurs or senior managers of online game companies are overseas returnees.

> "In an increasingly internationalized economy, bilingual professionals who can understand both domestic and international markets can best leverage the resources in this industry (Mr. Lin from Giant, interviewed on Dec 18th, 2007 in Shanghai)."

The local-global connection is a vital external factor for the development of this industry, as it explains the emergence of the industry, the diversifica-

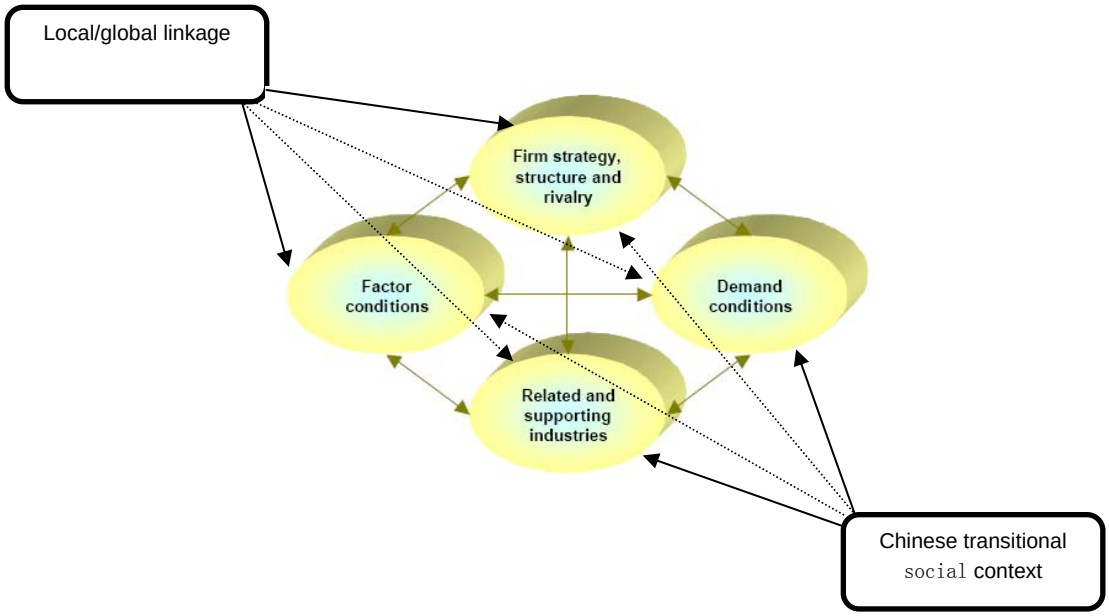
tion of local demand, the technology level, the source of capital, and the style of management.

7.3 Remodeling the Diamond

In the application of Porter's model to study China online game industry, the two important external influencing factors are not the government and the chance, which are suggested by Porter. The external factors are closely related to the development and change of Chinese social context (Figure 4). One influencing factor is from the transitioning social context that include collectivistic value, decentralized economy and grown up of single child generation; another is from the outside, the progressive integration of Chinese economy into the world, which can be demonstrated in the import of foreign products, skills, human resources and capital, the export of domestic products. The research data supports the idea that these two external factors are supportive to the development of Chinese online game industry.

Consequently, the Porter's Diamond can be remodeled to replace the two external influencing factors, government and chance, with local-global linkage and Chinese social context, as can be illustrated on Figure 4.

Figure 4: Remodeling the Diamond to study online game industry in China



CHAPTER 8 CONCLUSION & IMPLICATIONS

By applying the model, this thesis answered the questions of whether and why the gaming industry is competitive. It also discovered dynamics associated with the Chinese social context in their contribution to the formation and rapid growth of the industry. This chapter summarizes the research findings, evaluates the application of Porter's model to study online game industry in China, and suggests future research topics.

This study shows that there is a competitive advantage based upon variables such as market size and growth, sophistication of domestic demand, building up of advanced labor skills, aggressive participation of capital, increase in domestic rivalry, synergy of supporting industries, as well as adaptability of firm strategy and ownership structure to the national environment.

Since the Diamond model is an economic model that fails to include sociocultural elements that can influence the diffusion of online games and the evolvement of the industry, this thesis amends the Diamond model to include macro variables associated with Chinese social context. Going beyond the Diamond, this thesis argues that macro-variables associated with the Chinese transitional social context helps generate additional sources of competitive advantage for the industry. These variables include the collectivistic value that identify self in terms of obligation and relationship with others, the changing and diversifying consumer demand as a result of China's transition from centrally planned economy to a decentralized market-driven economy and strengthening local-global linkage, the sociability thirst of the single-child generation as a result of China's one-child policy enacted in late 1970s.

The systematic application of the Diamond shows there is a self-reinforcing effect among the four determinants. To explain the Diamond as a system in the study of the

China online game industry, I will summarize from three perspectives: the interrelationship of determinants, the industry clustering and the development stage of this industry.

- **Interrelationship of the determinants**

The interrelationships among the four determinants can be summarized as follows. First of all, on factor conditions, these have been positively impacted by the investment, product development and labor skills accumulation. Domestic size market and growth, complex demand and synergy of related industries play a key role in creating a competitive edge. Global competitors' presence in the local market has benefited the industry in project management and talent building. Secondly, on demand conditions in particular, the huge and sophisticated domestic demand is definitely the largest source of competitive advantage and is supported by other determinants. Sophistication of domestic demand weakens the standing of foreign game titles and supports the export of home grown titles. Thirdly, the related and supporting industries have an outbound effect. The development of online game supports the development of other IT related services and vice versa. Lastly, on domestic rivalry, the impact of domestic competition is positive in building competitiveness, but the influence of the global competition is unclear.

- **Industry clustering**

A systematic view also incorporates the idea of clusters which have been important in China since most online game companies are clustered in Beijing and Shanghai. There is evidence of geographical economies in these two regions and they have good infrastructure and have the labor/capital to supply inputs to the cluster. Government has supported this by developing its ICT penetration. This conclusion is based on the assumption that the clustering enables rapid interchange of information and knowledge, but discourages job-hopping of key staff among the competitors.

- **Three-stage of industry development**

A developmental perspective for the Diamond suggests that the Chinese online game industry is moving from investment-driven stage to the innovation-driven stage. The industry was initially in a capital-driven stage as international capital for selective start-ups and the import of game titles from Korea and US led to the formation of this industry, then the heavy local demand further motivated the firms to enter the technology-driven stage, when the firms want to obtain new technology, capital and acquire or train professional staff. Now the industry is in the innovation stage to produce innovative new services and products.

The elements for industry growth, as Porter suggested, factor creation mechanism, the stimulation mechanism for managers to make money, high domestic competition, and increasingly sophistication of domestic consumption can translate to sources of competitive advantages for the industry at a national level.

What contribution, then, has this analysis made to answer questions about online game sector competitiveness? First of all, this is the first systematic application of Porter's theory to study the case of Chinese online game industry. This exploratory research shows how an emerging economy like China can develop competitive advantage in the new media industry. It shows that the Chinese online game industry has charted different determinants of competitive advantage, from factor conditions, demand conditions to corporate strategy and related industries. Secondly, the application of this theory has helped to identify the sources of competitive advantage associated with a developing economy. This application shows how social context stimulate the dynamics of an emerging industry.

This exploratory study to examine the competitive advantage of a new media industry in a developing country shows that Porter's Diamond is of practical value to ICT for development (ICT4D) research. By applying the model, this thesis answers

questions about how an emerging economy creates competitive advantage and why. It can be applied to research on any IT sector and to a variety of research questions regarding issues of comparative performance and strategic actions for improved performance. The research result is of practical value to the academics, policy makers and entrepreneurs. It also helps bridge the discrepancy of main research discourse between the Western scholars and their Chinese peers in the study of ICT4D for the case of China. This research, by applying the classical industry growth model initiated by the Western academics to analyze an emerging industry in Chinese transitional society, is an exploratory attempt to bridge the discrepancy in media discourse between the East and the West. Western scholars used to focus on the regulatory and media censorship in their studies on an authoritarian country like China (Chan, 1994; Damm, 2007). In recent years, Western scholars have begun to build on the existing research of media censorship to study the liberalizing function of new media from censorship (Damm, 2007), while their Chinese counterparts focus more on the socio-economic implications of the new media technology in modernization or economic development (Chan, 1994; Di, 1992; Ren & Yang, 2005).

In Porter's model, emerging external influencing factors such as world economic integration and changing Chinese social context to an industry are not included. However, the dynamics of culture industries are more closely linked to real-world context and cultures. This thesis finds that variables associated with the local-global linkage and with the Chinese social context are particularly vital to explain the online game industry evolvement in China. First of all, the strengthening local-global connection requires the entrepreneurs and corporate management to look at their corporate strategies in an international business environment and cultural context of local market, leading to the formation and rapid development of online game industry in China, supporting the industry to become internationally competitive in terms of technology

acquisition, talent building, corporate financing, and the understanding of consumer demand. Additionally, Chinese transitional social elements such as the collectivistic value, the decentralized economy and the single-child generation, contribute to the development of online game industry in the rapid diffusion of online games among the youth, diversification of local demand and a relatively free environment for the development of online game companies.

However, from a longitudinal point of view, the sample group of the companies may be outdated within a few years time in this high-growth industry in China. Though the primary research data is obtained from interviews with decision-makers from 15 online game companies that in combination covers more than 80% of the entire local market in terms of revenue, the minor following game companies may still likely to emerge to become a major force in the industry within a few years. Secondly, it is primarily a qualitative research to study an entire new media industry on data gathered from interviews and there is a lack of quantitative analysis to mathematically measure the four determinants of competitive advantages.

To study ICT4D issue, Porter's model requires more work on the two determinants that are rather static. First of all, on demand conditions: the outside influencing factors drive up the size and level of sophistication of domestic demand. In this thesis, the transitional society, local-global linkage and collectivistic value help explain the constantly changing conditions of demand. Secondly, on relating/supporting industries: China's IT related industries can be the nucleus for a successful integration of related industries that may include IT service provider, animation, movie and arts professionals.

Future research could do comparative study of online game industry among different countries or do quantitative study of each single determinant of the model. In cultural studies of the Chinese new media industry, communications and psychology

scholars may also explore the influence of a transitioning culture in perspective taking and online behavior of the Chinese gamers.

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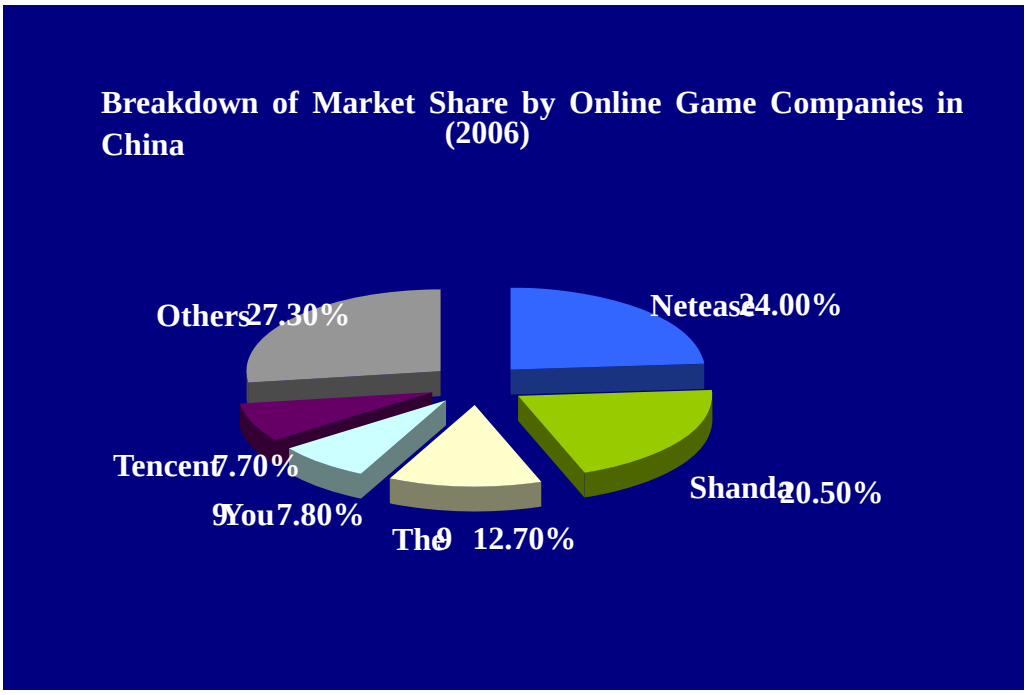
APPENDIX A

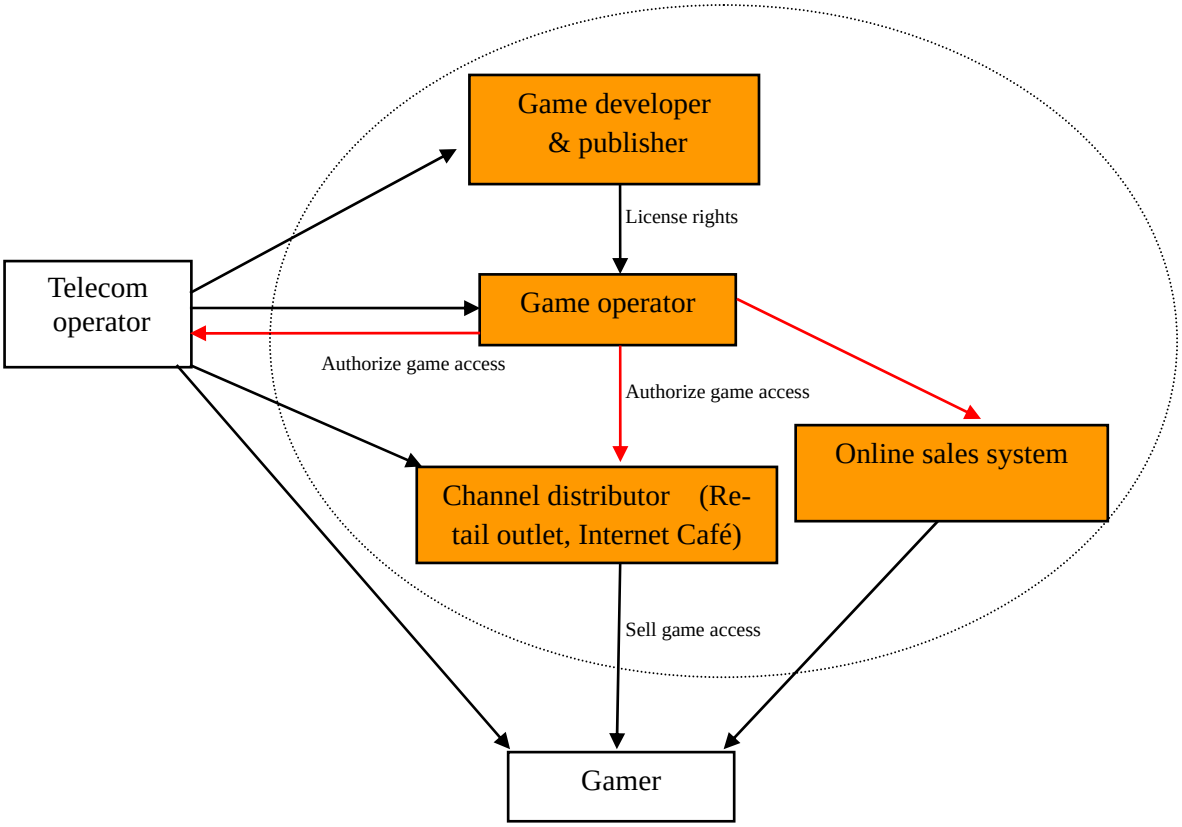
Market concentration of the leading online game companies in China in 2006



Note: The pie chart is compiled by the Researcher based on corporate revenues released on iResearch 2007 Annual Report

APPENDIX B

China's online game industry players and their relationships



Note:

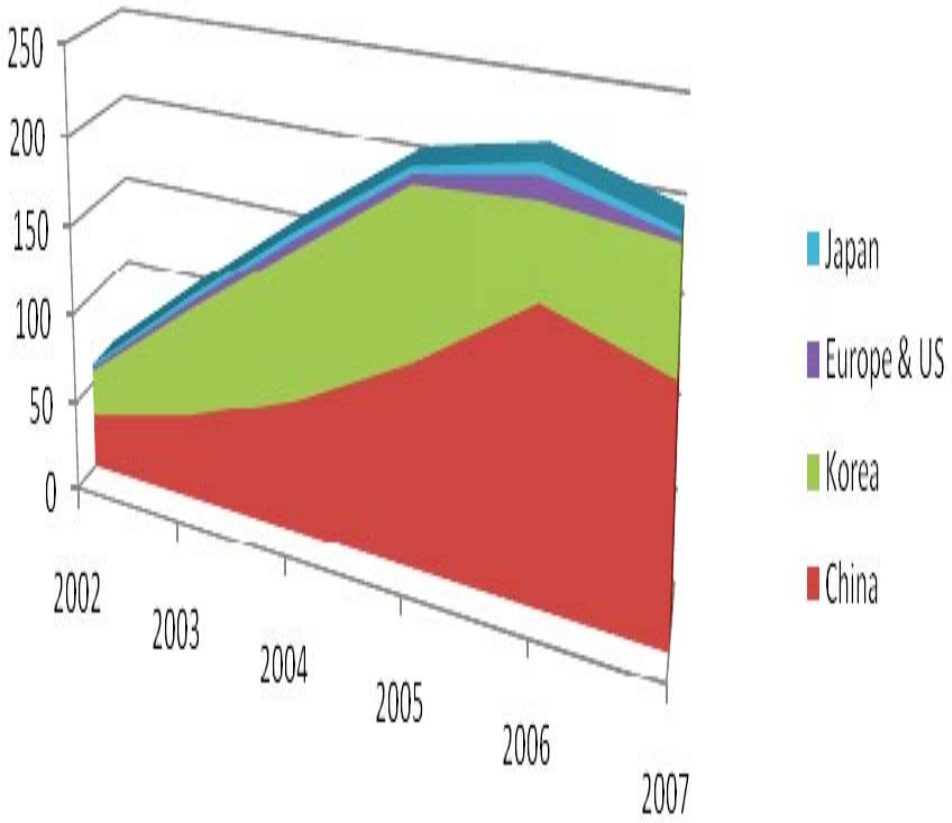
1 This chart is drawn by the Researcher based on data gathered from the fieldwork;

2 The four modules are highlighted in orange color and grouped in a round circle to illustrate the trend from separate entity to conglomerate in the Chinese online game industry

APPENDIX C

Origin of online game titles operated in China (2002 – 2007)

	Total	China	Korea	Europe & US	Japan
2002	61	30	27	2	2
2003	114	47	60	4	3
2004	164	73	81	6	4
2005	209	109	91	5	4
2006	222	154	50	12	6
2007	203	133	64	3	3



Source: www.sina.com Retrieved Feb 14th, 2008, from

http://game.sina.com.cn/n/2008_01_07/1454230275shtml

APPENDIX D

Revenue of Chinese online game companies listed on US and HK stock exchange (2007)

	Market share	Annual revenue ('000RMB)
Shanda	18.75%	2400000
NetEase	14.72%	1870000
Giant	12.10%	1550000
The9	10%	1331000
Net Dragon	5.04%	645214
Perfect World	5.38%	689100
Kingsoft	4.35%	556600
Sohu	1%	172800
Sub-total	72.08%	9214714
Others	27.92%	3585286
Total Revenue of Industry	100%	12800000

Notes:
1The Table is based upon official announcements of annual financial results for the year 2007; the above eight companies are major Chinese online game companies listed either in US or in HK and release financial results periodically;
2 All the companies listed here have been interviewed during the fieldwork;
3 Though the public listed online game companies are usually leading online game companies in China, this list is not a market share ranking. Other companies I interviewed, e.g. Optic Communications, Joyzone, etc. are not listed due to unapproachable of official financial results, but may have higher revenue than some of the above companies;
4 The figure of total revenue of the entire Chinese online game industry is obtained from iResearch 2007

APPENDIX E

Interview Schedule (Nov 24 - Dec 24, 2007)

Company Name	Company Website	Time	Venue
Nov 24 – Dec 6, 2007, Beijing, China			
NetEase	www.netease.com	2:00- 3:00 pm, Nov. 28th	SP Tower D, 26th Floor,Tsinghua Science Park Building 8,No.1 Zhongguancun East Road, Haidian District Beijing, China, 100084
Perfect World	www.pwrd.com	8:00- 8:50 pm, Nov. 29th	8th Floor, Huakong Building, 1 Shangdi East Road, Beijing, China 100085
Sohu	www.sohu.com	2:00 – 2:40 pm, Dec 5th	8th Floor, Sohu Plaza.,No.1 Zhongguancun East Road.Beijing, China 100084
Kingsoft	www.kingsoft.com	12:00 – 13:00, Dec 6th	10F, Baiyan Building No.238 BeisihuanZhong Road,Haidian District, Beijing, China 100083
Apex	N/A	2:00-3:00pm, Nov 30th	16th Floor, Zhongxin Building, 52 Beisihuan Middle Road, Beijing, China 100080
Dec 6 – Dec 23, 2007, Shanghai, China			
Moli	www.moliyo.com	4:00-4:40pm, Dec 13th	17th Floor, Changfeng Center,1088 Yan'an West Road, Changning District, Shanghai, China 200052
Tianchang	www.finet.com	8:00-9:00 pm, Dec 13th	Grand hall of Shanghai Regent Hotel, Shanghai, China
Iyoyo	www.iyoyo.com.cn	4:00-5:00 pm, Dec 13th	1st Floor, Building 14, No. 470 Guiping Road, Shanghai, China 200233
Shanda	www.snda.com	11:00-11:50 am, Dec 13th & 10:00-11:00 am, Dec 19th	No. 356 Guoshoujing Road, Pudong District, Shanghai, China 201203
NetDragon	www.nd.com.cn	11:00-11:45am, Dec 17th	Telephone interview
The9	www.the9.com	4:00-4:30pm, Dec 20th	Building 3, No. 690, Bi Bo Road, Zhang Jiang Hi-tech Park, Shanghai, China Pu Dong New Area, Shanghai 201203
Joyzone	www.joyzone.com.cn	2:00-3:00pm, Dec 19th	4th Floor, Bio-science Building,1326 Yan'an West Road, Shanghai, China, 200052
Giant	www.ztgame.com.cn	11:00 -11:50 am, Dec 18th	2nd Floor, 29th Building, 396 Guilin Road, Xuhui District, Shanghai, China 200233
Optic	www.gtgame.com.cn	2:00 – 3:00 pm, Dec 14th	25th Cangwu Road, Shanghai
Quarter Digital	www.quarterdigital.com	9:30-10:30 am, Dec 20th	Room 5002, Building 2, No.1559 Zuchongzhi Road, Pudong, Shanghai, China, 201210

APPENDIX F

Introductory Letter

Dynamics in China's Online Game Industry: Game operators' viewpoint

You are invited to participate in a research study of the dynamics in China's online game industry. The objective of this study is to get an insight into the driving forces that are shaping the game industry in China.

Your kind participation in the interview is sought for since you are manager of one of the leading online game operators in China. We estimate that it will take about one hour to do the interview. You will be given a souvenir as an appreciation of your participation.

There is no risk associated with the study. The benefits, which may reasonably be expected to result from the study, will be a better understanding of China's new media industry development. It is up to you to decide whether or not to take part in. Refusal to take part in will not affect the benefits to which you are otherwise entitled.

All information you provide with will be kept strictly confidential and will only be used for the purpose of this academic research. To protect your privacy, you will be assigned an identification number. All information you provide with will be stored only with the identification number, not with the name. The recorded and the corresponding transcribed print documents will be destroyed after the research is complete. Respondents will not be identified in any report or publication of this study.

This study is being conducted by Peggy Yuan Jiangping under the supervision of Dr. Chung Peichi. For an independent opinion regarding the research and the right of research participants, you may contact a staff member of the Institutional Review Board of National University of Singapore. (Mr. Chan Tuck Wai, at (65) 6516 1234 or email him at irb@nus.edu.sg)

If you have any questions regarding the interview, please contact Peggy Yuan Jiangping at (65) 9759 3366 or Jiangping.yuan@nus.edu.sg or Dr. Chung at cnmcp@nus.edu.sg or (65) 6516 3430, Communications and New Media Program, Faculty of Arts and Social Sciences, National University of Singapore.

APPENDIX G

Interview question list

On factor conditions (Skilled labor, capital and infrastructure)

1 What is the proportion of staff in the departments of game design, online game research and development, art and music compiler, management, marketing and computer system maintenance?

2 Is there any unique advantage and disadvantage that your labor force possesses as compared to peer companies in a global scale?

3 Is the team stable and capacity sufficient? Which department do you feel needs more talent and is it difficult to hire from the labor market?

4 How is the capital flow in the online game industry, e.g. do you think the industry as a whole has sufficient cash flow? If an online game company wants to expand business or seek financing from capital markets, is it difficult to for them to realize that? What kind of companies or games do you think would attract capital easier?

5 What's your opinion about the infrastructure situation for the operation of online games? How is the penetration of broadband access? Is there any technical difficulty for customers to play the online games that you offer? Are you able to provide timely customer service for gamers? How is the quality of broadband access to your customers in general?

On demand conditions (sophistication of customers in home market)

1 What are the best-selling games in the market and why? Are the gamers discriminative to the quality and content of the game?

2 Statistics have shown that the Chinese domestically developed games are gaining popularity and games from abroad are losing their market share in the Chinese domestic market, what do you think are the main reasons behind this trend?

3 How is the reception of Chinese home grown games on the international markets and why?

On related and supporting industries (competitors, upstream and downstream industries)

1 How is the competition of the market? Is the competition severe enough to threaten the bargaining power of your product in the market? Is there any technological spillover among competitors? How is poaching of employees by rival companies?

2 How about the downstream and upstream industries in the market that your company is operating? Is there any alliance or industry cluster among the related industries?

On firm strategy, structure and rivalry (Firm strategy, structure and suitability to national environment; Rivalry)

1 How is the management style in your company? Is it a hierarchical management structure or a smaller, family-run management structure? Are there any changes in recent years? What are other unique features of management style of the online game industry? Please comment on the appropriateness for the management style to the growth of online game companies and to the national environment?

2 Why do you choose to enter the online game industry? How is the career development opportunity in online game industry? How is the loyalty of core employees in your company and the industry as a whole? What are the key factors for the online game industry to attract core professionals and management? Is there any incentive schemes to enhance the loyalty?

3 How do you feel the competition in the online game industry as a whole? Is there any monopoly company or the market is separated by several big ones?

On external influencing factors

1 What do you think are the major external drivers for the development of this industry?

2 What do you think the role of government is in the development of the industry?

3 What are the implications of the increasingly connected world, the transition from a planned economy to a market-driven economy in China, as well as the technology breakthrough to the online game industry and your company?

APPENDIX H

List of China's online game operators and their games

Source: Corporate websites, compiled in January 2007

Shanda盛大網路 www.shanda.com :
The Legend of Mir II 熱血傳奇 www.mir2.com.cn
The World of Legend 傳奇世界 woool.sdo.com
The Sign 神跡 s3d.poptang.com
The Age 英雄年代 theage.poptang.com
Magical Land 夢幻國度 mland.sdo.com
D. O. 武林外史 do.poptang.com
RO (Ragnarok Online) 仙境傳說 ro.sdo.com
Tactical Commanders 破碎銀河系 psonline.poptang.com
DDO (Dungeons & Dragons Online) 龍與地下城
BNB (Bomb and bubble) 泡泡堂 bnb.poptang.com
Shanda Rich Man 盛大富翁 rich.sdo.com
The Three Kingdoms 三國豪俠傳 3ghero.sdo.com
GetAmped 熱血街霸 bfo.sdo.com
Maplestory 冒險島Online mxd.poptang.com
Haofang PC Game Platform 浩方線上對戰遊戲平臺 www.cga.com.cn
Quanquan 盛大圈圈 sdo.sdo.com
DJMAX http://dj.sdo.com
Crazykart 瘋狂賽車 kart.sdo.com

The9 第九城市 www.the9.com :
World of Warcraft 魔獸世界 www.wowchina.com
MU 奇跡MU www.muchin.com
Mystina Online 天外 www.mo.the9.com
Joyful Journey West (JJW) 快樂西遊 joyxy.the9.com
SUN 奇跡世界 http://sun.the9.com
Super Girl Online 超女世界 http://sg.higame.com.cn/
Granado Espada 卓越之劍 http://ge.the9.com/

SINA 新浪 www.sina.com
Lineage II 天堂II www.lineage2.com.cn
Green Village 野菜部落 igame.sina.com.cn

NetEase 網易 www.163.com ; www.netease.com
Westward Journey Online II 大話西遊II xy2..163.com
Fantasy Westward Journey 夢幻西遊 xyq.163.com
Fly For Fun 飛飛 ff.163.com
Datang Online大唐 dt.163.com
Tianxia II 天下貳 http://tx2.163.com/
Aladdin 阿拉丁 popogame.163.com
Crazy Tetris 瘋狂俄羅斯 popogame.163.com

SOHU 搜狐 www.sohu.com
Blade Online 刀劍線上 bo.sohu.com
Knight Online 騎士線上 ko.sohu.com
Blade·Hero Online刀劍·英雄http://bo.sohu.com/

久遊網www.9you.com
O2JAM 勁樂團o2jam.9you.com
Audition 勁舞團 au.9you.com
Super Dancer Online 超級舞者 sdo.9you.com
Mengjiang Online猛將線上mj.9you.com
Corum Online 科隆II corum2.9you.com
Mix Monster 獵人MM mm.9you.com
Snake Online貪吃蛇大戰snake.9you.com
Mopai Online 魔牌線上 mopai.9you.com
CS-Bomber Man 反恐炸彈人
Burst A Fever超級樂者 http://baf.9you.com/

KingSoft 金山 www.kingsoft.com
The First Myth 封神榜 fs.kingsoft.com
JX Online 劍俠情緣 jx.kingsoft.com
JX Online II 劍俠情緣II jx2.kingsoft.com
幻想春秋 cq.kingsoft.com
Hero108 水滸Q傳 http://sh.xoyo.com/

JoyPark 網星 www.joypark.com.cn
軒轅 swdol.joypark.com.cn
Dream of Mirrow Online 軒轅 2 飛天歷險 domo.joypark.com.cn
Cross Gate 魔力寶貝 cg.joypark.com.cn

17 Game 一起玩 www.17game.com
The Throne of Here 英雄王座www.yxwz.com
RXJH 熱血江湖 www.rxjh.com
Droiyan 決戰 dr.17game.com

IYOYO 悠遊網 www.iyoyo.com.cn
TTH Online 絕代雙驕 tth.gameflier.com.cn
SG Online 三國群英傳 http://sg.iyoyo.com.cn/
Rainbowland Online (RO) 仙境傳說 ro.gameflier.com.cn
HY Online 黃易群俠傳 http://hy.iyoyo.com.cn/

Joyzone 天縱www.joyzone.com.cn
Teales Weaver 天翼之戀 tw.joyzone.com.cn
CT Race 飆車 ctr.joyzone.com.cn

Gamania 遊戲橘子 www.gamania.com.cn
Jushang 鉅賈 game.gamania.com.cn/jushang/
Gamania 2005 混亂冒險game.gamania.com.cn/laghaim/
Ever Quest II 無盡的任務 2 東方版
game.gamania.com.cn/everquestII/

Gamigo 遊戲米果 www.gamigo.com.cn
ZFS 真封神 zfs.gamigo.com.cn
星鑽物語 to.gamigo.com.cn

CATV 中廣網 www.catv.net
YT II 倚天 2 yt2.catv.net
PCIK 破天一劍 pcik.catv.net
Jiangshan 江山jiangshan.catv.net

Chinagames 中國遊戲中心 www.chinagames.net

Ourgame 聯眾世界 (Globallink) www.ourgame.com

QQ Game 騰訊 (Tecent) game.qq.com
QQ Tang QQ堂 qqtang.qq.com
QQ Speed of Sound QQ音速http://r2.qq.com/

Happydigi雙樂數碼 www.happydigi.com
Survival Project彩虹冒險 sp.happydigi.com
深圳謀略高手
The Legend of LAQIA 雅典娜 www.laqia.cn

天晴數碼 TQ Digital Entertainment
Zero 機戰 http://jz.91.com/

兆鴻集團 Shanghai Z.H.International Investment Corp
Tankbb 坦克寶貝 www.tankbb.com

天方夜潭 www.tfyt.com.cn
Star Craft 星際爭霸

天聯世紀集團 http://www.t2cn.com/ T2CN group
Freestyle Basketball (T2CN) 花式籃球
http://www.fsjoy.com/
DarkEden (T2CN) 天之煉獄 2 www.tzdk.com

上海天遊軟體 http://www.t2qq.com/
魔法飛球 2 Pangya Season 2（TSky）
FFII (Final Fantasy II) 最終幻想 II

Snail Game 遊戲蝸牛 http://www.snailgame.net/
Dark and Light 黑暗與光明
Age of Armor 機甲世紀 http://www.aoachina.com

北京光宇線上科技有限責任公司
http://www.gyyx.cn/index.aspx
Asktao問道 http://wd.gyyx.cn/

Seal Online（Grigon）希望OL www.sealonline.com.cn

征途網路: http://www.ztgame.com.cn/
征途 http://www.ztgame.com.cn

Game Soon Soon www.gamesoon.com
Band of Sisters 兄妹連 http://www.gamesoon.com/

SINA 新浪 www.sina.com
欲望 OL 欲望-龍之故鄉
http://www.ywgames.com/Index.html

Game Cyber HK 天宇科技
http://www.gamecyber.com.hk/
Infernal Affairs Online 無 間 道 Online http://www.iag-online.com/main.html

聯眾科技 http://www.ourgame.com/
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北京皓宇科技 Gamlaxy
SGC Online IV 三國策 IV
http://www.sgconline.com.cn/index.asp

Perfect World 北京完美時空網路技術有限公司
World 2 完美世界 http:world2.com.cn/
Wulin 2 武林外傳
World2 International (W2i) 完美世界國際版
http://www.w2i.com.cn/

北京創先軟體 Transoft
Benchmark 信長之野望 Onlin
e http://www.xconline.com.cn/

Mega Enterprise Mega 娛樂
Kong Kong Online 空空
http://www.kongkongonline.com/
ARN GAMES/ WINDYSOFT
Infinity Online http://infinity.windyzone.com/

光通娛樂Guangdong Optisp http://www.optisp.com/
Mir 3 傳奇 3 http://www.mir3.com.cn/
Shaiya-Light and Darkness 神泣
http://shaiya.gtgame.com.cn/
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SOS

世紀天成 Tian City www.tiancity.com
Crazy Racing (Tian City) 跑跑卡丁車
http://popkart.tiancity.com/homepage/

上海摩力遊數字娛樂有限公司Moli Group Ltd.
http://www.moliyo.com/
驚天動地 Cable Online (Moli) http://cabal.moliyo.com/

廣東資料通信網路有限公司 http://www.5u56.com/
City2046 都市 2046 http://2046.5u56.com/
RF Online 行會戰爭 rf.5u56.com
Come On Baby 寶寶總動員
http://www.baobao-china.com.cn

深圳市網域電腦網路有限公司Shenzhen Domain Network
http://www.szdomain.com/
PP World飄飄http://www.qqpiaopiao.com/2006/
Huaxia 2 華夏 2 http://www.huaxia2.com/

金通數位移動 Goldcom Digital Entertainment
Street Soccer 街頭足球http://www.istreetsoccer.com/

目標軟體Object Online game http://www.object.com.cn/
FW Online 鳳舞天驕http://fw.object.com.cn/

上海易當網路科技有限公司 Shanghai Yetime Network Technology Co., Ltd.
Priston Tale(Yetime) 精靈復興 pt.yetime.cn

北京巨集象網路科技有限責任公司
http://www.gametower.com.cn/
Game Tower(Hongxiang) 明星斗地主
http://www.gametower.com.cn/

北京賽維創世軟體技術有限公司 Beijing Chuangshi Online game Technology Co., Ltd.
Oriental Fantasy (Cway Game) 奇俠

中國網禪 Webzen
Kingdom of Warriors 一騎當千

寶德網路 Power Leader
PK1937 抗戰 1937 www.pk1937.com.cn

嘉遊 SEGAME
Penguin Ice 碰碰冰

杭州天暢 Tianchang Tech
DTFY 大唐風雲 dtfy.fyplay.com